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WITH SUPPLEMENTARY GUIDE LEAFLET ON
THE HALL OF FOSSIL VERTEBRATES

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OF THE

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The publications of the American Museum of Natural History consist of the 'Bulletin,' in octavo, of which one volume, consisting of about 400 pages, and about 25 plates, with numerous text figures, is published annually; and the 'Memoirs,' in quarto, published in parts at irregular intervals. Also an 'Ethnographical Album,' issued in parts, and the 'American Museum Journal.'

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Each Part of the 'Memoirs' forms a separate and complete monograph, with numerous plates.

Vol. I (not yet completed).

PART I.—Republication of Descriptions of Lower Carboniferous Crinoidea from the Hall Collection now in the American Museum of Natural History, with Illustrations of the Original Type Specimens not heretofore Figured. By R. P. Whitfield. Pp. 1-37, pll. i-iii, and 14 text cuts. September 15, 1893. Price, \$2.00.

PART II.—Republication of Descriptions of Fossils from the Hall Collection in the American Museum of Natural History, from the report of Progress for 1861 of the Geological Survey of Wisconsin, by James Hall, with Illustrations from the Original Type Specimens not heretofore Figured. By R. P. Whitfield. Pp. 39-74, pll. iv-xii. August 10, 1895. Price, \$2.00.

PART III.—The Extinct Rhinoceroses. By Henry Fairfield Osborn. Part I. Pp. 75-164, pll. xiii-xx, and 49 text cuts. April 22, 1898. Price, \$4.20.

PART IV.—A Complete Mosasaur Skeleton. By Henry Fairfield Osborn. Pp. 165-188, pll. xxi-xxiii, and 15 text figures. October 25, 1899.

PART V.—A Skeleton of Diplodocus. By Henry Fairfield Osborn. Pp. 189-214, pll. xxiv-xxviii, and 15 text figures. October 25, 1899. Price of Parts IV and V, issued under one cover, \$2.00.

PART VI.—Monograph of the Sesiidæ of America, North of Mexico. By William Beutenmüller. Pp. 215-352, pll. xxix-xxxvi, and 24 text cuts. March, 1901. Price, \$5.00.

PART VII.—Fossil Mammals of the Tertiary of Northeastern Colorado. By W. D. Matthew. Pp. 353-447, pll. xxxvii-xxxix, and 34 text cuts. November, 1901. Price, \$3.00.

Vol. II. Anthropology.

Jesup North Pacific Expedition.

PART I.—Facial Paintings of the Indians of Northern British Columbia. By Franz Boas. Pp. 1-24, pll. i-vi. June 16, 1898. Price, \$2.00.

PART II.—The Mythology of the Bella Coola Indians. By Franz Boas. Pp. 25-127, pll. vii-xii. November, 1898. Price, \$2.00.

PART III.—The Archæology of Lytton, British Columbia. By Harlan I. Smith. Pp. 129-161, pl. xiii, and 117 text figures. May, 1899. Price, \$2.00.

PART IV.—The Thompson Indians of British Columbia. By James Teit. Edited by Franz Boas. Pp. 163-392, pll. xiv-xx, and 198 text figures. April, 1900. Price, \$5.00.

PART V.—Basketry Designs of the Salish Indians. By Livingston Farrand. Pp. 393-399, pll. xxi-xxiii, and 15 text figures. April, 1900. Price, 75 cts.

PART VI.—Archæology of the Thompson River Region. By Harlan I. Smith. Pp. 401-442, pll. xxiv-xxvi, and 51 text figures. (With title-page, contents, and index to Vol. II.) June, 1900. Price, \$2.00.

Vol. III. Anthropology (not yet completed).

PART I.—Symbolism of the Huichol Indians. By Carl Lumholtz. Pp. 1-228, pll. i-iv, and 291 text figures. May, 1900. Price, \$5.00.

Vol. IV. Anthropology (not yet completed).

Jesup North Pacific Expedition.

PART I.—Traditions of the Chilcotin Indians. By Livingston Farrand. Pp. 1-54. June, 1900. Price, \$1.50.

PART II.—Cairns of British Columbia and Washington. By Harlan I. Smith and Gerard Fowke. Pp. 55-75, pll. i-v, and 9 text figures. January, 1901. Price, \$1.50.

PART III.—Traditions of the Quinault Indians. By Livingston Farrand, assisted by W. S. Kahnweiler. (in press.)

Vol. V. Anthropology (not yet completed).

Jesup North Pacific Expedition.

PART I.—Kwakiutl Texts. By Franz Boas and George Hunt. (In press.)

Vol. VI. Anthropology.

Hyde Expedition.

The Night Chant, a Navaho Ceremony. By Washington Matthews. (In press.)

Vol. VII. Anthropology (not yet completed).

Jesup North Pacific Expedition.

PART I.—The Decorative Art of the Amur Tribes. By Berthold Laufer. Pp. 1-79, pll. i-xxxiii, and 24 text figures. December, 1901. Price, \$3.00.

ETHNOGRAPHICAL ALBUM.

Jesup North Pacific Expedition.

Ethnographical Album of the North Pacific Coasts of America and Asia. Part I, pp. 1-5, pll. 1-28. August, 1900. Sold by subscription, price \$6.00.

BULLETIN.

The matter in the 'Bulletin' consists of about twenty-four articles per volume, which relate about equally to Geology, Palæontology, Mammalogy, Ornithology, Entomology, and (in the recent volumes) Anthropology, except Vol. XI, which is restricted to a 'Catalogue of the Types and Figured Specimens in the Palæontological Collection of the Geological Department.'

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The American Museum Journal

VOL. II.

JANUARY, 1902

NO. I.



THE present number of the JOURNAL, commencing Volume II, inaugurates certain changes in typography and page which it is hoped will prove acceptable to our readers and to those who make use of the supplements. The plan which was adopted with the number for October last of issuing a supplementary guide leaflet to an exhibit or group of exhibits in the Museum has met with so much favor that it will be continued for the present. The supplement issued with the current number is a general description of the material on exhibition in and of the arrangement of the hall of Vertebrate Palæontology. It is proposed to prepare several similar illustrated leaflets describing at some length and in a popular manner different portions of the exhibit in this hall which may be considered as units. The authorities of the Museum are issuing the JOURNAL as a means of bringing the institution into close touch with the public and the schools, and it is to be hoped that the friends of the Museum will assist in making the circulation of the publication as large as possible. The JOURNAL proper will continue to give to the public items of news regarding the work of the various departments, notable new accessions, programs of lectures and popular short articles on specimens in the Museum. The price of subscription to those not members of the institution has been placed at the low price of one dollar per year, which barely covers the actual cost of paper, illustrations, printing and postage.

The Department of Geology has just completed a large undertaking, namely, the publication of a tabulated catalogue of all the type and figured specimens contained in its extensive collection of fossils. The term "type", as employed in this Department of the Museum, embraces not only the specimens actually

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used by an author in the original description of a species, but also those specimens which have been used by the same author in the further elucidation of the species in subsequent publications. The types may or may not have been illustrated in connection with the first publication. "Figured specimen" is the term applied here to the specimens which have been identified with a species by another person than the author of the species and which have been illustrated in some publication. From the standpoint of the student and investigator, such specimens are the most valuable portion of any collection, and should, therefore, be marked in some conspicuous manner and be preserved with the greatest care, while the knowledge of their location and their history should be as widely disseminated as possible. All the types and figured specimens in this Department are individualized by the use of a small rhomb of emerald green paper securely gummed to each.

There are in this Department of the Museum 8,345 type and figured specimens, representing 2,721 species and 190 varieties, distributed in the Catalogue according to the following table:

| PARTS. | TYPES. | | | FIG'D SPECIMENS. | | | REFERENCES. | |
|---------------------|-------------|------------|-------------|------------------|------------|-------------|-------------|--------------|
| | Species. | Varieties. | Specimens. | Species. | Varieties. | Specimens. | Page. | Figure. |
| I. | 448 | 10 | 1070 | 16 | 107 | 450 | 836 | 2372 |
| II. | 635 | 22 | 1791 | 92 | 0 | 625 | 1236 | 4504 |
| III. | 667 | 27 | 1707 | 158 | 5 | 717 | 3329 | 5437 |
| IV. | 472 | 12 | 1598 | 233 | 7 | 387 | 1160 | 2011 |
| Totals. | 2222 | 71 | 6166 | 499 | 119 | 2179 | 6561 | 14324 |

Part I, issued in July, 1898, embraces the specimens in the Cambrian and Lower Silurian systems; Part II, issued in October, 1899, includes the material from the Upper Silurian system;

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Part III, issued in October, 1900, comprises that from the Devonian system; and Part IV, bearing date of December 27, 1901, lists the remainder of the collection from Lower Carboniferous to Quaternary, inclusive, and contains the preface, table of contents and index to the whole work.

ANTHROPOLOGICAL WORK AMONG THE INDIAN TRIBES OF THE SOUTHWEST.



IN January 1 Dr. Aleš Hrdlička, of the Department of Anthropology, started on his fourth expedition for this Museum to the region of the Aztecs, Pueblos and Cliff-Dwellers, and he expects to return in about eight months.

These expeditions have had for their object the systematic study of the physical characteristics of all the Aztec, Pueblo and Cliff-Dweller tribes, living or extinct, from southern Utah and southern Colorado down to the state of Morelos, Mexico. Among other results which may be expected are the definite identification of these tribes and either a refutation or a confirmation of the theory that the Aztecs came from the north and were probably related to the Pueblos. Physiological observations are also made for a comparison of some of the principal functions of the body, such as pulse, temperature, respiration and muscular force, in these tribes and in white men. Medical observations are made on the ordinary diseases among the Indians and on their manner of treating them.

Dr. Hrdlička's previous expeditions in this series have been as follows: first, in Mexico, in 1898, with Dr. Carl Lumholtz, covering the Tarahumares, Huichols and Tepecanos; second, in 1899, to the Navahos and southern Utes; third, in 1900, to all the Pueblos and Apaches. The present expedition will cover the remaining tribes in southwestern Arizona and northern Mexico, among them the Bimas, Papagos, Yaquis, Mayos, Tepehuanes, Coras, Aztecs and Tarascos. The first expedition was supported by the Museum; the second, third and fourth by Mr. Frederick E. Hyde, Jr.

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NEW BIRD GROUPS.



THROUGH the generosity of a friend of the Museum, who desires to have his name withheld from the public, six groups have recently been added to the very attractive and instructive series representing birds amid their natural surroundings which are to be seen in the halls of the Ornithological Department. The new groups represent the American dipper, or water-ousel, the osprey, the yellow-headed blackbird, the coot, Wilson's phalarope and the wild pigeon. The material for the first-named was gathered by Mr. Frank M. Chapman last summer on the banks of a rushing icy stream issuing from a glacier in the Selkirk mountains of British Columbia. The rocky bank of the stream, the nest in the cleft of the rock and the birds in and about the nest have been reproduced with lifelike fidelity in the Museum exhibition case. Mr. Chapman collected the specimens and accessories for the osprey group on Gardiner's Island, off the eastern end of Long Island, and those for the blackbird, coot and phalarope groups at Shoal Lake, Manitoba. The twelve specimens included in the wild-pigeon group were secured with much difficulty from collectors and dealers throughout the country, the surprising fact being incidentally developed that a species which, within the last fifty years, was one of the most abundant native birds of this country, is now so rare, not only in nature, but also in collections, that specimens of it are practically unobtainable. Each of these new groups is designed to illustrate not only the haunts and habits of a species of birds, but also some fact of general biological interest. This feature will be fully set forth in the labels accompanying the cases.

NOTES AND NEWS.

DEPARTMENT OF ENTOMOLOGY. — Mr. William Beutenmüller, the Curator of this Department of the Museum, again visited the Black mountains of western North Carolina during September and October last for the purpose of securing specimens of the insects occurring in this interesting region and of obtaining

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scientific data regarding their surroundings and life-histories. The results of the expedition are highly satisfactory and demonstrate the desirability of carrying the work on to completion. About 3500 specimens were collected on this trip, supplementing the 3000 which were obtained in the same region last year. The insect fauna of the mountainous region of western North Carolina is very distinct from that of the surrounding country, and many of the species show northern affinities. Mr. Beutenmüller obtained on this trip many new as well as many very rare species, and he has in preparation a monograph on "The Insect Fauna of the Black Mountains, North Carolina," which it is to be hoped he will be enabled to bring to satisfactory completion by material to be obtained on future expeditions. The Black mountains are a transverse chain forming the principal link of connection between the Blue Ridge and the Smoky mountains, and rise in a region which is very interesting from a geographical and geological as well as from a faunal standpoint. It is the culminating portion of the Appalachian system, the united chains containing, in the district under consideration, twenty-five great peaks, twenty of which are more than 6000 feet in elevation above the sea. Most of these mountains are practically unexplored territory, which furnishes an additional argument for the speedy completion of this entomological survey of it.

THE Department of Anthropology has received the first installment of Chinese clothing, baskets and tools used by the tailor and artificers in allied trades, collected by Dr. Berthold Laufer on his expedition to China, recently undertaken through the generosity of a friend of the Museum. The most striking feature of the consignment just received is the clothing, which represents completely the costumes of various classes of the people and includes a number of magnificently embroidered garments. A portion of this Chinese collection is on exhibition in hall No. 106, on the ground-floor of the building.

IN the same hall (No. 106) will be found the famous Briggs collection, representing the basketry of the Indians of the Pacific coast of the United States, which has been recently received as a

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donation from George F. Peabody, Esq. This collection is particularly good in the line of feathered baskets from central California and other kinds from the southern part of that State.

THE Museum has received from Mr. W. Jochelson, of the Jesup North Pacific Expedition, his whole Koryak collection from Siberia, consisting of about 1200 pieces of all sorts, among which there are a great many objects of prehistoric age. This material and that sent in by Mr. W. Bogoras, of the same expedition, which was noticed in the last number of the JOURNAL, have been removed from the original boxes in which they were received and have been placed in storage cases for lack of room in the exhibition halls for displaying them.

ARTHUR CURTISS JAMES, Esq., has purchased the valuable collection of Ainu objects made by Professor Bashford Dean last year and has presented it to the Museum. This latest addition supplements in a very satisfactory manner the two Ainu collections previously owned by the Museum and renders the whole series a very complete representation of the culture of that peculiar people. One of the older Ainu collections was presented by Mr. James, while the other was obtained by Dr. Laufer in 1899, when at work for the Jesup North Pacific Expedition.

MR. MARSHALL H. SAVILLE, Curator of the Section of Mexican Archaeology of the Anthropological Department, left New York on December 11 to continue the explorations at the ancient ruined city of Mitla, in the State of Oaxaca, Mexico, which he has been prosecuting with great success for some years with the aid of funds provided by the Duke of Loubat.

THERE has just been erected in the opening of the west stairway an immense totem pole from Queen Charlotte's Island, British Columbia. This fine pole, which is nearly fifty feet tall, stood for many years near the Indian village of Gumsheva on the east coast of the island and was brought to the Museum in 1901 as a result of the Jesup North Pacific expedition.

AN index to Volume I of the JOURNAL is in course of preparation and will be issued as soon as practicable.

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LECTURES.

PROFESSOR ALBERT S. BICKMORE, Curator of the Department of Public Instruction, announces the following courses of lectures for the remainder of the season of 1901-1902.

To Teachers in the Public Schools, Saturday mornings at 10:30 o'clock:

January 25th and February 1st.—"Naples, Pompeii and Rome: Their Museums."

February 8th and 15th.—"The Eastern Riviera."

March 1st and 8th.—"The Upper Rhine."

March 15th and 22d.—"The Lower Rhine."

To the Members of the Museum and their friends, on Thursday evenings, as usual, at 8:15 o'clock:

February 20th.—"Naples, Pompeii and Rome: Their Museums."

February 27th.—"The Eastern Riviera."

March 6th.—"The Upper Rhine."

March 13th.—"The Lower Rhine."

On Thanksgiving Day Professor Bickmore repeated his lecture on the Pan-American Exposition of 1901 to the general public. This lecture has been given five times in the Museum, beginning with October 26th, and the record of attendance shows that 4,944 persons have heard it, the doors of the lecture hall being closed when all the seats were occupied.

On Christmas Day Professor Bickmore lectured in the Museum to the general public on "London: The 'City' and the Thames," while on New Year's Day he had "London: Its Museums and Galleries" for his subject. On Washington's Birthday he will give an illustrated lecture on "The Rhine" to the public. No tickets are required for admittance to these lectures on the legal holidays, but the number in the audience is limited to the seating capacity of the hall.

BOARD OF EDUCATION COURSE.—The programme of illustrated lectures at the Museum during January and February under the auspices of the city Department of Education provides for lectures twice a week, continuing the plan inaugurated in

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October last. The lecturers and subjects for the Tuesday evening course are as follows:

January 7th.—W. E. MEEHAN,—“Greenland.”

January 14th.—MISS MARY V. WORSTELL,—“The Yellowstone National Park.”

January 21st.—EGERTON R. YOUNG,—“The Indians of the Wild Northwest: Their Haunts; Their Sports; Their Homes.”

January 28th.—F. S. DELLENBAUGH,—“The Cliff- and Cave-Dwellers of the Southwest.”

February 4th.—W. C. PECKHAM,—“The State of New York, and its Remarkable Natural Features.”

February 11th.—GEORGE W. BICKNELL,—“Flashes of Light on Yankee Land.” A description of Central New England.

February 18th.—JACQUES W. REDWAY,—“In the Heart of the Rockies.”

February 25th.—E. O. HOVEY,—“The Black Hills and Bad Lands of South Dakota and Wyoming.”

The programme of the course for Saturday evenings is as follows:

January 4th.—HARLAN I. SMITH,—“An Evening in the American Museum of Natural History.”

January 11th.—CHAS. L. BRISTOL,—“The New York Aquarium.” A description of the fine fish collection at the Battery.

January 18th.—MISS MARY V. WORSTELL,—“Bronx Park.” A description of the Park and the New York Botanical Gardens.

January 25th.—HENRY F. OSBORN,—“The Zoölogical Garden.” A description of New York's great Zoölogical Garden at Bronx Park.

February 1st.—W. T. ELSING,—“The Reign of Fire.” The first of a course of four lectures on “The Story of the Earth.”

February 8th.—W. T. ELSING,—“The Warfare of Water.”

February 15th.—W. T. ELSING,—“The Great Ice Age.”

February 22d.—W. T. ELSING,—“The Earth and Man.”

At the Board of Education lectures, given at the Museum during October, November and December, the official total attendance at the Tuesday evening course of eleven lectures was 15,924, and at the Saturday evening course of nine lectures, 5,409. The Saturday evening lectures were more technical in character than were those given on Tuesday evenings. The lecture on the Passion Play, October 22d, was heard by a thousand people more than could obtain seats in the hall.

Publications

OF THE

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American Museum Journal

EDMUND O. HOVEY, *Editor*.

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Volume II, Number 2

FEBRUARY, 1902

THE
AMERICAN MUSEUM
JOURNAL



WITH SUPPLEMENTARY GUIDE LEAFLET ON
THE COLLECTION OF MINERALS

Published by the AMERICAN MUSEUM OF NATURAL HISTORY
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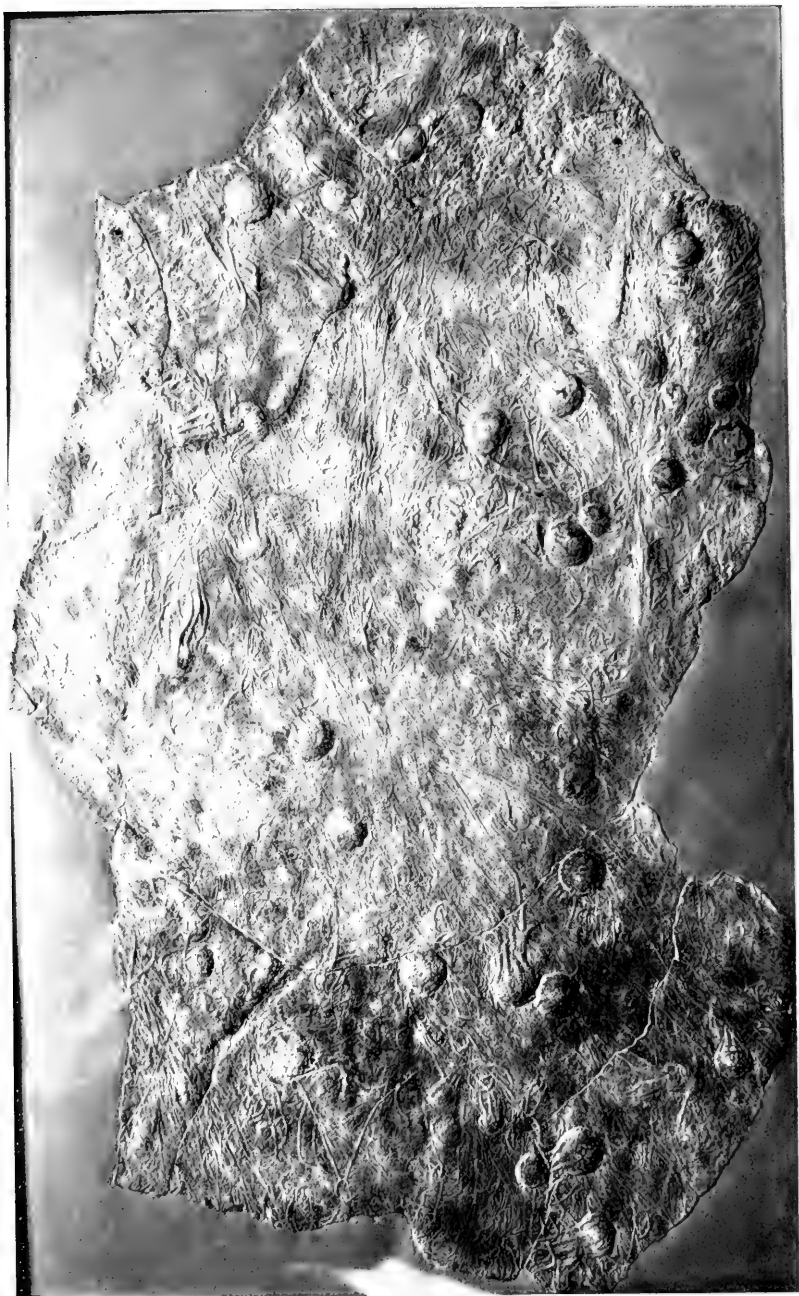
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UINTACRINUS SOCIALIS—Grinnell. FOSSIL CRINOID FROM KANSAS.

The American Museum Journal

VOL. II.

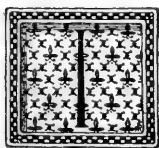
FEBRUARY, 1902

No. 2.



THE JOURNAL presents with this issue a general Guide Leaflet to the Halls of Minerals which will be found of great assistance by persons visiting and inspecting the collections therein. Just before Thanksgiving Day last year the hall was opened, first to members of the Museum and their friends and afterwards to the general public, with the great acquisition of the Bement mineral collection all in place. This collection had long had the reputation of being the finest private collection of exhibition specimens of minerals in the world, so that the Museum authorities felt that they were indeed to be congratulated when a munificent friend of the institution somewhat more than a year ago presented the whole to the Museum, including the magnificent collection of meteorites, which is one of the largest assemblages in existence of those interesting visitors from space. Practically nothing but the Bement collection is now on exhibition in the desk cases of the Mineral Halls, but all the best specimens in the previous Museum collection have been retained and have been arranged in systematic order in the drawers of the desk cases, awaiting the time when more exhibition space shall be available for minerals.

A REMARKABLE SLAB OF FOSSIL CRINOIDS.



ON November, 1901, the Department of Geology and Invertebrate Palæontology received from Frank Springer, Esq., of East Las Vegas, New Mexico, the gift of a large slab of the fossil Crinoid which is known to science as *Uintacrinus socialis* Grinnell. This Crinoid is characteristic of the Niobrara Chalk



UINTACRINUS SOCIALIS—Grinnell. AN INDIVIDUAL FROM THE SLAB, NATURAL SIZE.

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horizon of the Upper Cretaceous of western Kansas. This slab, which is five feet four inches long and three feet two inches wide, in extreme dimensions, has been mounted and is now on exhibition in Panel 1 of Case P on the west side of the Geological Hall (No. 405) on the fourth floor of the Museum.

Crinoids belong to the same great subdivision of the animal kingdom as the common modern Starfish, but they are of a lower grade of organization. Some forms are provided throughout life with stalks, or stems, the lower ends of which are rooted in the mud of the sea-bottom or attached to some foreign object. Other forms, like the *Comatula* of the present seas, had such stalks during the very early stages of their existence, but lost them afterwards and floated free in the water. Crinoids seem to have been most abundant both in species and in individuals, during Lower Carboniferous (late Palæozoic) time, but, for the most part at least, they were stalked forms, leading a stationary existence. The free forms were more abundant later and now are very numerous, more than two hundred species of the family Comatulidæ having been described from the present ocean. *Uintacrinus* was a free form and has been found only in beds of Upper Cretaceous age.

The first specimen of the genus was found in 1870 by Prof. O. C. Marsh in the Uintah mountains in northeastern Utah. The Kansas specimens have added very greatly to our knowledge of these beautiful animals and have given Mr. Springer the material from which he has been able to complete the morphological studies of the genus made by Mr. F. A. Bather of the British Museum on European material. Mr. Springer's conclusions have been published in an elaborate memoir by the Museum of Comparative Zoölogy of Harvard University with several plates.

The investigations of Mr. Springer and others at the best localities show that these Crinoids lived in populous colonies in the quiet mediterranean sea or lagoon which occupied western Kansas in Cretaceous times. Those Crinoids that were at the lowest part of the floating mass rested directly upon the soft mud and settled into it in the positions in which they happened to be when the colony died. These were thus perfectly imbedded by

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the lower side in a fine matrix which preserved them like a mould. The other individuals of the colony settled down on top of these and, not having a soft or plastic bed to receive and preserve them, were crushed out of shape and disarticulated, and their component plates were indiscriminately mixed up. The whole mass was cemented together under pressure, forming a slab,—a thin layer of limestone as we now find it,—with the Crinoid bodies preserved only on its lower side. The largest of these lenticular layers of limestone was about fifty feet long and twenty feet wide with a thickness of half an inch in the middle, thinning out on all sides to the thinness of cardboard. More than twelve hundred specimens in which more or less of a calyx was shown were obtained from this deposit. The arms of these Crinoids are so mingled in the slab that it was impossible to free any of them, but some of them have been traced to a distance of forty inches from the body to which they belong.

The slab which the Museum has received from Mr. Springer shows distinctly at least sixty-five bodies, while fifteen or sixteen more can be made out under the covering of entangled arms. The body or calyx had thin walls, the plates of which were apparently connected by a sort of articulation or loose suture, so that it was more or less flexible and comparatively light in weight. All the calices have been flattened so that the opposite walls have been brought together in the form of a watch crystal.

E. O. H.

THE DEPARTMENT OF PUBLIC INSTRUCTION.



TWO letters which have been recently received by Professor Bickmore give very gratifying evidence of the spreading influence of the Department of Public Instruction under his control. Persons who are in the habit of attending the lectures at the Museum know the popularity of the courses by Professor Bickmore and appreciate the superb character of the views thrown on the screen, but the extent to which these lectures and views are being used in the public schools of the State and the demand

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that there is for them outside of the State and the country are not so familiar to all. Light upon both of these points will be thrown by the following letters, the first of which came from an entire stranger to Professor Bickmore and gives an indication of what is going on in the schools of central New York.

PHELPS, N. Y., Dec. 23, 1901.

DEAR SIR:—

I began to give your lectures in the school chapel two years ago, using acetylene, but last year I got the building wired and now use electricity, which is more satisfactory. I first gave "Niagara Falls" to an audience mostly of scholars. Gradually my audiences have increased until now I have about 175-200 each night, of people who come each time and who are delighted with the views and the information gained.

I usually go over the views with your notes four or five times after my duties are over for the day and then read the notes, keeping in mind the slide described, until I know the principal facts of each view. I give a talk of about one and one-half hours.

I have given Egypt, Greece, Italy, Niagara, Cuba and Spanish War, Yellowstone National Park, Grand Cañon, Yosemite, Atlantic Coast, two on the Hawaiian Islands, one on the Philippines, Lesser Antilles and the Connecticut Valley.

At Clifton Springs and Shortsville, adjoining villages, similar courses are given [by the principals there]. If other parts of the State are doing the same, you are doing a great work in giving useful information to the people. I think greater efforts should be put forth to inform Union School Principals of the fact that they may obtain these views from cities and villages having a Superintendent.

Very truly yours,

(Signed) WILLIS A. INGALLS,

Principal of Schools.

The second letter is from the head of the school system of the Philippine Islands and shows the value placed there upon the stereopticon and first rate lantern slides in the work of instructing the Filipinos in regard to their new masters. The letter is an ex-

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cellent testimonial to the system of "visual instruction" which has grown up under the auspices of this Museum.

MANILA, November 11, 1901.

DEAR SIR:—

I have not forgotten the interesting visit which I made to your Museum before leaving New York.

We have just ordered nine magic lanterns and desire to present, in illustrated lecture form, as much information about American history and life as possible. What arrangements can be made with you to secure slides and what can we do as a return favor to you?

Considerable has been done in establishing schools and the Department now desires to give some attention to public libraries and public lectures, because they are very important supplementary educational agencies. Any suggestions that you may be willing to make will be very helpful.

With kindest regards, I am,

Very truly yours,

(Signed) FRED. W. ATKINSON,

Superintendent of Public Instruction
for the Philippine Islands.

THE ANDREW J. STONE EXPEDITION.



THE first season's work of the Andrew J. Stone Expedition has proved very successful and satisfactory. This expedition was organized early in the year 1901, and its work will continue during a period of three years, the means therefor having been generously contributed by public-spirited citizens of New York. It is under the leadership of Mr. Stone, who has several expert assistants to help carry on the work.

The purpose of this expedition is primarily to secure for the Museum good series of all the large game animals of North America, many of which are as yet unrepresented in its collections and are on the way to rapid extermination. The more prominent and interesting species will be mounted as groups with proper accessories and will form one of the most attractive features of

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the Museum collections. The smaller mammals and birds obtained by the expedition will be of special value to the Museum, since the more northern parts of the Continent are thus far very poorly represented here as regards the mammals and birds.

The season of 1901 was spent partly on the Kenai Peninsula and partly on Kadiak Island and the adjoining mainland of Alaska. Mr. Stone's assistants were Mr. J. D. Figgins of the American Museum and Mr. Maynard of Seattle, Washington. The collections comprise about forty large mammals, including good series of Caribou, Mountain Sheep and Moose, and of several species of Bear, besides several hundred small mammals and a large collection of birds

NEWS NOTES.

THE collections of the Department of Vertebrate Palæontology were enriched in January by the receipt of an excellent skull of the Woolly Rhinoceros (*Rhinoceros tichorhinus*) from the Pleistocene deposits of Russia. This specimen has come through Professor Alexis Pavlow and Madame Marie Pavlow of the University of Moscow, in exchange for material from the western United States, and will soon be placed on exhibition.

The skeleton of *Ichthyosaurus quadriscissus* which was noticed at length in the JOURNAL for October, 1901, has been further worked out of its rocky matrix, re-set and soon will be mounted in the corridor over the great Mosasaur skeleton.

The attention of visitors is called to the series of water-colors by Mr. Charles R. Knight, showing the different forms of the modern Zebra, and displayed in connection with the series illustrating the evolution of the Horse.

THE Department of Anthropology has received from J. D. Crimmins, Esq., the gift of a series of fifteen native Filipino hats. These were collected by his son, Lieut. Martin L. Crimmins, Sixth Infantry, U. S. A., who is now stationed on the Island of Pane, Philippine Islands.

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SOME of the material collected by Dr. Berthold Laufer in China, mentioned in the JOURNAL for January, has been placed on exhibition in the northeastern quarter of Hall No. 207, on the main floor of the building. The most striking objects are four ancient bronze drums, ancient and modern examples of carving, baskets and richly-embroidered garments and cloths. Only sixteen bronze drums of this character are known to be in existence.

THE Andrew Ellicott Douglas collection of celts and other Indian implements is being installed in the Tower Room at the extreme southwest corner of the main floor.

THE Section of Archæology has received an exchange from the Buffalo Society of Natural History, consisting of a representative collection from a village site in the southern part of Buffalo. This site was inhabited in historic times by the Seneca Indians, at whose head was the famous chief, Red Jacket. In prehistoric times the same site was occupied by the Kah-Kwahs, another division of the Iroquois people, who spoke a related language and had kindred customs. In the early days this site was neutral ground, because it was near the quarry of chert, the material which all tribes alike needed for making arrow-points. When the Senecas, however, secured guns and no longer used chert-pointed arrows, they captured the site from the Kah-Kwahs, an event which took place early in the seventeenth century. The present collection was made by Mr. Frederick Houghton, principal of one of the Buffalo schools, and is very complete. The implements represent both the Seneca occupation and that of the prehistoric Kah-Kwahs, and are accompanied by full information regarding the circumstances of their finding and their probable use. The collection is on exhibition in Hall No. 208, on the main floor of the building.

THE Anthropological Department has also received, as a gift from the Peabody Museum of Cambridge, Massachusetts, one of the Mexican codices which have been prepared through the liberality and under the editorship of Mrs. Zelia Nuttall.

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THE Department of Entomology has received from the Very Reverend E. A. Hoffman about six hundred and fifty specimens of butterflies from Australia, British New Guinea and other parts of the globe. All the forms are new to the collection, and there are many rare and beautiful species among them. Including this gift, the department received more than nine hundred specimens from this generous friend of the Museum during the year 1901.

THE Department of Geology has placed on exhibition on the tops of some of the cases containing the Jesup Collection of Building Stones on the ground floor of the Museum a series of specimens illustrating the building stones of Georgia. These specimens are in the form of handsome eight-inch cubes, with one face polished and the others finished in different styles to show the appearance of the material when treated according to several methods of the stone-dresser's art. The series comprises thirty-eight of these cubes, and includes gray, homogeneous granite of several shades, porphyritic granite and gneiss, sandstone, limestone and mottled and white marble. The collection was made for the State of Georgia by the State Geologist, Dr. W. S. Yeates, and has been exhibited at the expositions held at Atlanta, Nashville and Buffalo. It has been deposited in the Museum by the Geological Board of Georgia as an exhibit of the resources of the State in regard to building stones.

THREE important parts of the Memoirs of the Museum were issued in January as results of the explorations carried on by the Jesup North Pacific Expedition. They are, "The Traditions of the Quinault Indians," by Dr. Livingston Farrand, assisted by W. S. Kahnweiler, forming Part III of Vol. IV of the whole series of Memoirs; "Kwakiutl Texts," by Professor Franz Boas and George Hunt, forming Part I of Vol V; and "The Decorative Art of the Amur Tribes," by Dr. Berthold Laufer, forming Part I of Vol. VII. The Quinault Indians live on the coast of the State of Washington, while the Kwakiutl tribe lives in British Columbia. In the Memoir, the Kwakiutl texts and the English translations thereof are arranged in parallel columns. Dr. Laufer's paper is

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elaborately illustrated with thirty-three plates, some of which are in colors, and twenty-four text figures.

THE official record shows that 50,607 persons visited the Museum during the month of January, 1902.

LECTURE ANNOUNCEMENTS.

DURING March the following lectures will be delivered at the Museum by Professor Albert S. Bickmore:

To Teachers in the Public Schools: Saturday mornings at 10.30 o'clock:

March 1st and 8th.—“The Upper Rhine.”

March 15th and 22d —“The Lower Rhine.”

To the Members of the Museum and their friends, on Thursday evenings at 8.15 o'clock:

March 6th.—“The Upper Rhine.”

March 13th.—“The Lower Rhine.”

The illustrations for these pictures have been prepared from negatives taken last summer expressly for Professor Bickmore.

THE lectures given under the auspices of the City Board of Education will be continued throughout the month on Tuesday and Saturday evenings at 8 o'clock precisely.

Publications

OF THE

American Museum of Natural History

ANNUAL REPORT: Octavo, about 80 pp.

BULLETIN: Octavo; annual; about 400 pages and 25 plates with numerous text illustrations. Articles relate about equally to Geology, Palæontology, Mammalogy, Ornithology, Entomology and (in recent volumes) Anthropology.

MEMOIRS: Quarto; issued in parts at irregular intervals, several parts being published annually. One volume has been completed and six are now under way. Each part forms a separate and complete monograph, varying in size from 24 to 100 or more pages, with numerous plates, mostly lithographic.

JOURNAL: Octavo; in numbers, one volume annually; illustrated. A popular record of the progress of the Museum, each number containing a Supplement which is a Guide Leaflet descriptive of some exhibit or group of exhibits in the Museum.

American Museum Journal

EDMUND O. HOVEY, *Editor*.

FRANK M. CHAPMAN, }
LOUIS P. GRATACAP, } *Advisory Board.*
WILLIAM K. GREGORY, }

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Volume II, Number 3

MARCH, 1902

THE
AMERICAN MUSEUM
JOURNAL



WITH SUPPLEMENTARY GUIDE LEAFLET ON
NORTH AMERICAN RUMINANTS

Published by the AMERICAN MUSEUM OF NATURAL HISTORY
New York City

American Museum of Natural History

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THE AMERICAN MUSEUM OF NATURAL HISTORY was established in 1869 to promote the Natural Sciences and to diffuse a general knowledge of them among the people, and it is in cordial coöperation with all similar institutions throughout the world. Since the Museum authorities are dependent upon private subscriptions and the dues from its members for procuring needed additions to its collections and for carrying on explorations in America and other parts of the world, the attention of persons interested in such matters is called to the brief statement of deeds and needs on the fourth page of the cover of the Supplement.



A FOSSIL ARMADILLO FROM TEXAS

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THE Annual Meeting of the Trustees of the Museum was held on Monday evening, February 10. The report of the Treasurer showed that there had been disbursed for maintenance, \$147,773.75, which was \$17,773.75 more than had been appropriated for this institution by the City. The deficit, however, had been met by the contributions of the Trustees, which enabled the Museum to begin the current year free of debt. The subscriptions for the increase and improvement of the collections and for publication amounted to \$141,452.13, of which \$37,500 was received from the Trustees and \$11,500 was derived from gifts made by numerous other contributors. The remainder of the sum total was in the nature of funds subscribed for expeditions in the field, for specific branches of the Museum's work and for the purchase of special collections.

The expeditions maintained during 1901 were the Jesup North Pacific expedition; the Hyde expeditions in the southwestern States and in Mexico, supported by Messrs. B. T. Babbitt Hyde and F. E. Hyde, jr.; expeditions for archaeological research in the Delaware Valley, supported by Dr. Frederick E. Hyde; the Mexican expedition under the patronage of the Duke of Loubat; an expedition in the Far East for the collection of material illustrating the life and customs of the Chinese; an expedition throughout the western States in search of specimens for the formation of series showing the evolution of the horse, the cost of which was met by Mr. William C. Whitney; the Andrew J. Stone expedition to the Northwest for the purpose of obtaining specimens of the large game animals of the continent; expeditions from the Department of Vertebrate Palæontology to Wyoming, Colorado and other parts of the West for fossil

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reptiles and mammals; an expedition to the Selkirks for birds; one to South Dakota and Wyoming for fossil invertebrates, and one to the Black Mountains of North Carolina for insects.

Among the notable acquisitions received during the year there may be mentioned a unique and valuable collection of gold coins to the number of eight hundred from the Philadelphia mint, presented by Mr. J. Pierpont Morgan; the Briggs collection of Indian basketry, presented by Mr. George Foster Peabody; a series of Ainu objects made by Prof. Bashford Dean, and presented by Mr. Arthur Curtiss James; a large collection of shells donated by Mr. Frederick A. Constable; large additions to the Hoffman collection of Butterflies by the Very Rev. Eugene A. Hoffman; the Sennett collection of eight thousand birds; the Dorenburg collection of Mexican antiquities, and a large collection of Indian objects.

The scientific staff of the Museum has been active along the line of publication, having issued during the year six parts of the quarto *Memoirs*, Part IV (conclusion) of Volume XI, Volume XIV and Part I of Volume XV of the *Bulletin* and eight numbers of the *American Museum Journal*. Four of the *Memoirs* emanated from the Anthropological Department, one from the Entomological Department and one from the Department of Vertebrate Palæontology.

Mr. Morris K. Jesup was elected President for the twenty-second term; Mr. Wm. E. Dodge and Professor Henry Fairfield Osborn were re-elected First and Second Vice-Presidents, respectively; Mr. Charles Lanier was re-elected Treasurer, and Professor Hermon C. Bumpus was made Director.

A FOSSIL ARMADILLO FROM TEXAS.



ONE of the most valuable and interesting finds made by the American Museum Texas expedition of 1901 was that of a nearly complete carapace, or shell, the tail-pieces and part of the internal skeleton of a Glyptodont. The specimen was found by the writer in the side of a bluff of "Bad Lands" at Mount

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Blanco, Texas. The only portions visible at first were a few small pieces of the scutes or scales that had been washed away and lay uncovered at the bottom of the little ravine, below where the main part of the skeleton still reposed in its original bed or matrix, but so completely hidden by the loose material and bunches of grass that covered the hill-side that it was only by diligent search that it was discovered.

This queer animal belonged to a family of Edentates allied to the living armadillos. It was, however, much larger than the armadillo and differed from that animal in having a perfectly rigid armor or shell. The armadillo has the plates of its armor fastened together in certain places in a manner to make them slightly movable one upon the other, enabling the animal to curl up in his shell, somewhat after the manner of a porcupine. The carapace of this Glyptodont from Texas is about four feet long, and the tail-piece is about two and one-half feet in length, hence the total length of the animal in life, from the point of the nose to the tip of the tail, must have been between seven and seven and one-half feet.

This unique specimen is of particular scientific interest, since it is the first one of this extinct family, sufficiently well preserved to show any of its characters, found so far north in this country. Remains of species of Glyptodonts are very abundant in South America.

J. W. GIDLEY.

THE INTERNATIONAL CONGRESS OF AMERICANISTS.



At the twelfth International Congress of Americanists held in connection with the Universal Exposition at Paris in 1900, it was voted to accept the invitation of Mr. Morris K. Jesup to hold the thirteenth congress of the association in the halls of the American Museum from the 20th to the 25th of October next. Last November, Mr. Jesup, as president of the commission of organization of the meeting, issued an invitation to all the Americanists in the world to join the congress, the object of the

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convention being, in the words of the circular of invitation, "to bring together students of the archæology, ethnology and early history of the two Americas, and by the reading of papers and by discussions to advance knowledge of these subjects."

The subjects to be discussed by the Congress relate to—

- I. The Native Races of America: their Origin, Distribution, History, Physical Characteristics, Languages, Inventions, Customs and Religions.
- II. The History of the Early Contact between America and the Old World.

To make the preliminary arrangements for the congress and the discussions pertaining to the foregoing topics, President Jesup appointed a special committee, consisting of the heads of the departments of Anthropology in the American Museum, and invited the American Association for the Advancement of Science through its section of Anthropology to advise and coöperate with that committee in selecting a general commission of organization, representative of the leading institutions in the United States at which work in Anthropology is being done.

The officers of the Commission of Organization are as follows: President, Morris K. Jesup; Vice-President, The Duke of Loubat; General Secretary, M. H. Saville; Treasurer, Harlan I. Smith.

The list of the members of the General Commission and the institutions which they represent is: Franz Boas, Columbia University; E. G. Bourne, Yale University; Charles P. Bowditch, American Antiquarian Society; John C. Branner, Leland Stanford Junior University; J. V. Brower, Minnesota Historical Society; H. C. Bumpus, American Museum of Natural History; Sydney H. Carney, Jr., New York Historical Society; A. F. Chamberlain, Clark University; T. F. Crane, Cornell University; Stewart Culin, University of Pennsylvania, American Philosophical Society and Numismatic and Antiquarian Society of Philadelphia; George A. Dorsey, Field Columbian Museum; G. T. Emmons, U. S. Navy; Livingston Farrand, New York Academy of Sciences; J. Walter Fewkes, American Association for the Ad-

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vancement of Science; Geo. P. Garrison, Texas State Historical Association; D. C. Gilman, Johns Hopkins University; Charles S. Gled, Kansas State Historical Society; Stansbury Hagar, Brooklyn Institute of Arts and Sciences; Henry W. Haynes, American Academy of Arts and Sciences and Massachusetts Historical Society; F. W. Hodge, Smithsonian Institution; Levi Holbrook, American Geographical Society; W. J. Holland, Carnegie Museum; W. H. Holmes, U. S. National Museum; A. L. Kröeber, University of California; Otis T. Mason, Columbian University; W. J. McGee, National Geographic Society; Clarence B. Moore, Academy of Natural Sciences of Philadelphia; Edward S. Morse, National Academy of Sciences; W. W. Newell, American Folk-Lore Society; A. S. Packard, Brown University; G. H. Perkins, University of Vermont; J. W. Powell, Bureau of American Ethnology; F. W. Putnam, Harvard University; William B. Scott, Princeton University; Frederick Starr, University of Chicago; J. J. Stevenson, New York University; R. G. Thwaites, State Historical Society of Wisconsin; John Williams White, Archæological Institute of America; Jas. Grant Wilson, American Ethnological Society; Thomas Wilson, Anthropological Society of Washington; Talcott Williams, American Historical Association.

Since the Congress of Americanists has never before met in this country, a brief statement relating to its history and its objects will be of interest in this connection. For several years prior to 1857 there were several gentlemen living in France who were especially interested in the pre-Columbian history of North and South America, particularly in relation to the ancient civilizations of Mexico and Peru and the theories regarding the peopling of the New World. In order further to encourage research on these and kindred subjects pertaining to America, a society was organized in that year under the name, "La Société Américaine de France."

This association flourished to such a degree that its members conceived the idea of assembling an International Congress of Americanists to meet in Nancy, France, in 1875. The meeting at Nancy was attended by representatives of various countries,

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and statutes were adopted which established the broader organization on a firm basis. Biennial meetings were held at first, and the place was selected by the council of the "Société Américaine de France"; later, the place and time of the meeting were determined by the Council of the Congress. Sessions of the Congress have been held at irregular intervals, first at Nancy, then at Luxemburg, Brussels, Madrid, Copenhagen, Turin, Berlin, Paris, Huelva, Stockholm, Mexico and again at Paris in 1900.

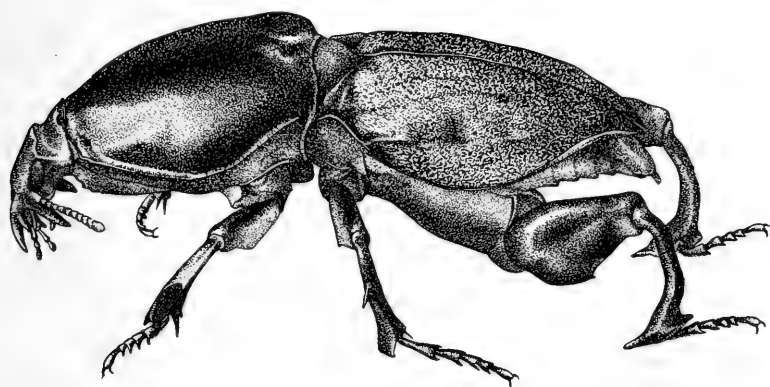
In acknowledgment of the international character and importance of these gatherings of students of ancient American history, the Congress has in several instances been directly under royal patronage, and everywhere great consideration has been accorded to the members, and high honor bestowed upon the Congress. The Presidents of the Congress have been men distinguished for their work in some of its sections. A volume is published after each meeting containing a résumé of the proceedings of the Congress and a number of the important papers read at the meeting.

With a full appreciation of all that the meeting of the Congress implies, the American Museum of Natural History will strive to do its part, as host, to make the coming meeting a successful one. The great collections in American archæology and ethnology, and the opportunities for comparative study which the Museum offers, with its corps of workers to give assistance, should induce many foreign Americanists to visit this continent, which is the field of their investigations, while to all who come, whether from this country or abroad, a most hearty welcome will be extended.

LAST month the Department of Vertebrate Palæontology placed on exhibition in its hall a remarkable specimen of an extinct Dog from Skillet Cik Donley Co., Texas, which has been described by Dr. W. D. Matthew under the name *Dinocyon Gidleyi*. The animal is the largest of the dog family thus far described and belongs to an extinct race resembling in many respects the bears. It must have equalled or exceeded the polar bear in size. The specimen consists of the skull with a con-

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siderable part of the spinal column attached and parts of two bones of the leg. It may be found in Case 8 on the north side of the hall. A restoration of the head of the animal has been made in water colors by Mr. Charles R. Knight and is exhibited in connection with the specimen.



HYPOCEPHALUS ARMATUS DESMAREST.



SPECIMEN of the remarkable Beetle, *Hypocephalus armatus* Desmarest, has been purchased recently by the Museum and has been placed on exhibition in the gallery of the East Wing (Hall No. 302).

The creature is a native of Brazil, where it lives in the roots of one of the plants of the tropical forest, probably confining itself to one kind of plant. The species has given rise to considerable controversy among scientists, and there have been more divergent opinions expressed regarding its systematic position and relationships than those of any other form of beetles known. In form and structure it is very different from any other member of the order Coleoptera, though its general external appearance is somewhat like that of the mole-cricket (*Gryllotalpa*). Without going deeply into anatomical details, the principal features which characterize this creature are the large prothorax, which equals in length and bulk the hinder portion of the body; the five-jointed tarsi; the enormously developed hind femora; the form of the mandibles; the manner in which the head is

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joined to the thorax; the short antennæ, and the legs, which are adapted to digging. This insect was first described in 1832 by Desmarest, and it has been generally conceded by entomologists that it forms a distinct genus and even family of Coleoptera. The species is considered to be a remnant or fragment of a very old fauna, otherwise unrepresented among living forms. The illustration given herewith is about six-fifths natural size.

W. BEUTENMÜLLER.

LECTURES IN MARCH AND APRIL.

THE City Board of Education has provided the following courses of illustrated lectures for March and April.
Saturday evenings, on physical geography:

March 1.—JACQUES W. REDWAY, "Life of a World." An explanation of some important facts in geology.

March 8.—JACQUES W. REDWAY, "Industrial Regions of the United States."

March 15.—RICHARD E. DODGE, "Man's Relation to Rivers and River Valleys."

March 22.—RICHARD E. DODGE, "Man's Relation to Mountains and Plains."

March 29.—RICHARD E. DODGE, "Life in the Deserts."

April 5.—CYRUS C. ADAMS, "Great Ports of the World."

April 12.—JOHN W. MOYER, "How to Know the Common Trees."

April 19.—JOHN W. MOYER, "Where Lumber Comes From."

April 26.—MISS LOUISE KLEIN MILLER, "Home Gardening."

Tuesday evenings, on the geography of North America:

March 4.—JOHN P. CLUM, "Alaska."

March 11.—S. T. WILLIS, "The Mississippi Valley and the Southern States."

March 18.—H. L. BRIDGMAN, "Seeking Peary and the Pole."

March 25.—W. E. MEEHAN, "Pennsylvania."

April 1.—EGERTON R. YOUNG, "In the Land of the Red Men, as they Were and Are. With Glimpses of Prairies, Mountains, Lakes and the Glorious Northern Auroras."

April 8.—W. E. MEEHAN, "Florida."

April 15.—JOHN P. CLUM, "In the Wake of the Setting Sun."

April 22.—W. E. SIMMONS, "The Nicaragua Canal."

April 29.—JOHN C. BOWKER, "Hawaii."

The doors of the lecture hall will be opened at half-past seven, and the lectures will begin promptly at eight o'clock.

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The American Museum Journal

EDMUND O. HOVEY, *Editor*.

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Volume II, Number 4

APRIL, 1902

THE
AMERICAN MUSEUM
JOURNAL



WITH SUPPLEMENT ON
THE ANCIENT BASKET MAKERS OF
SOUTHEASTERN UTAH

Published monthly, except June to September, by
THE AMERICAN MUSEUM OF NATURAL HISTORY
New York City

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The American Museum Journal

VOL. II.

APRIL, 1902

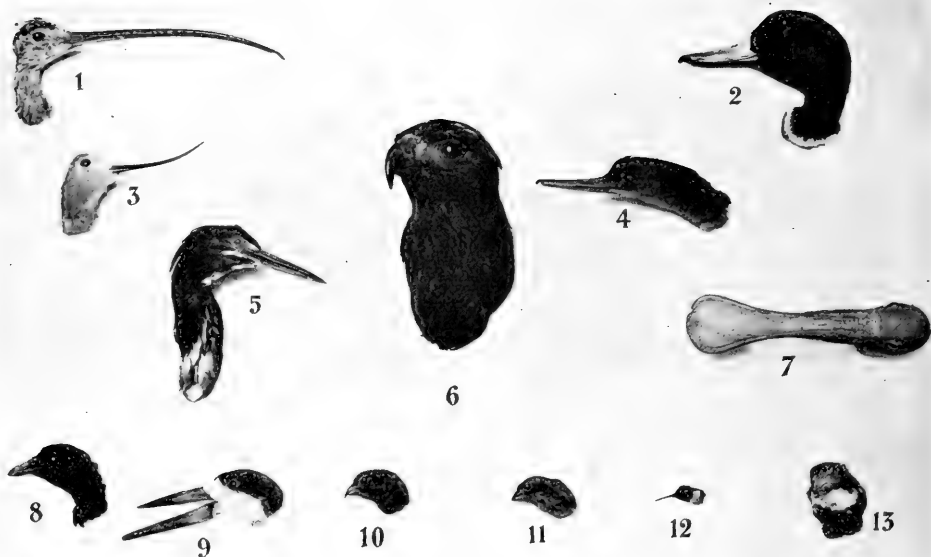
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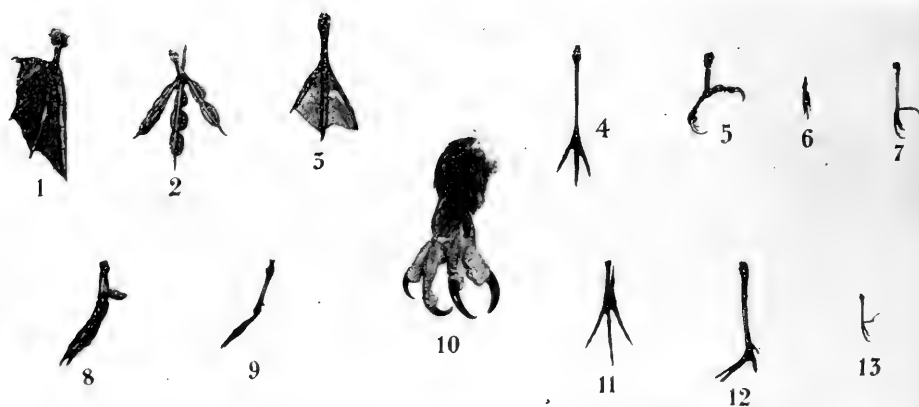
THE "Guide Leaflet" presented with this number of the JOURNAL is descriptive of a remarkable assemblage of baskets, sandals, pottery, clothing and articles of food, and the desiccated bodies of the people who made use of them, which has been installed in the southwest corner of the West hall, second floor. The people are known as the "Basket Makers" and they lived and died in the cañons of the southeastern part of Utah, probably before the prehistoric Cliff Dwellers inhabited that region. This collection comprises the oldest baskets known from this continent. Even as late as ten years ago it was not generally supposed that basket-making had been carried to such a high degree of perfection so early in the history of the American races.

DEPARTMENT OF PUBLIC INSTRUCTION.

JOHN C. MEDD, Esq., Hon. Secretary of the committee having in charge the Nature Study exhibition which is to be held in London next July, under the patronage of many well-known personages, among whom is Lord Strathcona, High Commissioner for Canada, has written to Prof. A. S. Bickmore, asking him to make an exhibit of the slides, photographs and methods used for "visual instruction" by the Department of Public Instruction of the American Museum. Mr. Medd, furthermore, has invited Prof. Bickmore to take part in the important series of conferences on Nature Study which are to be held in connection with the exhibition. Prof. Bickmore intends to accept this invitation and is making ready a series of photographic prints and slides illustrating the forestry of North America, as prepared for his lectures in the Museum and throughout the



TYPES OF BILL



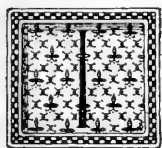
TYPES OF FEET

TWO PARTS OF THE EXHIBIT DESIGNED TO ILLUSTRATE TERMS USED IN DESCRIPTIVE ORNITHOLOGY

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State. These photographs are in sets of six showing each forest tree barren of leaves and in full leaf, the trunk, a single leaf, the flower and the fruit. As far as is practicable, each set has been made from but one tree. The exhibit of the Department of Public Instruction will include, also, a complete series of photographs of the exhibition halls of the Museum, taken especially to show the study of our collections by classes of pupils from the free public schools. These series of photographs of trees have been especially commended by the national and State forestry authorities, who have requested the privilege of reproducing them in the illustration of their reports.

AN EXHIBIT DESIGNED TO ILLUSTRATE TERMS USED IN DESCRIPTIVE ORNITHOLOGY.



IN order to make the bird collection of greater value to students, there lately have been placed on exhibition several series showing birds' bills, feet, tails, wings and feathers, with the technical names which are applied to them by ornithologists. Thus, referring to figure 9 in the greatly reduced reproduction on page 32 of the exhibits showing "Types of Bills," the nature of a hypognathous bill is seen at once, and the technical name (Greek *ὑπό*, under, *γνάθος*, jaw) is found to relate to the fact that the under mandible is longer than the upper, a condition rare among birds. Again, turning to the plate of feet, it will be observed that a zygodactyle foot (Greek *ζυγόν*, a yoke, *δάκτυλος*, a digit) has two toes in front and two behind, hence the technical name, meaning, literally, yoke-toed.

These two illustrations are sufficient to show the practical use of this exhibit, but the thoughtful student will go a step further, and seeing, for instance, so many bills and feet brought into direct comparison with one another, will inquire, "Why this great variation in form?" This thought will lead to a study of the relation between habit and structure, one of the most interesting branches of the study of birds in nature. The hypognathous bill of the Black Skimmer, which in the dead specimen

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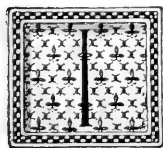
suggests a malformation, will then be found to be closely related to the bird's manner of feeding, which is to drop the elongated lower mandible slightly below the surface, as it skims rapidly over the water. In this way the bird gathers various forms of aquatic life for food.

In a similar manner, observation shows that the singular, re-curved or upturned bill of the Avocet (No. 3) is used to find food on the bottom in shallow water. When feeding, the bird swings the head from side to side through an arc of about 50° , the convexity of the lower mandible just grazing the mud or sand, while the delicate, pointed tip of the bill is turned up out of harm's way. Similarly the lamellirostral or platy bill of the Mallard (No. 2), the serrate or saw bill of the Merganser (No. 4), the spatulate bill of the Spoonbill (No. 7), and the tenuirostral or slender needle-like bill of the Hummingbird, indeed the bills of all birds, will be found to be related to the character of the food of the bird in question or to the manner of obtaining it.

On studying the feet, wings and tails, a similar close connection between form and function is seen to exist; and, while it is necessary so to describe and name a form that the terms employed become a part of the exact language of science, terminology is only a means to an end, and should indicate to us the cause of the widely different types of structure which are encountered in nature and of which only a few are illustrated in this new exhibit.

F. M. C.

MEXICAN CODICES.



IN this JOURNAL for October, 1901, there is a brief notice of the exhibition of the reproductions of the several ancient Mexican manuscripts for which the Museum is indebted to the Duke of Loubat. To this interesting exhibit there has recently been added, as a gift from the Peabody Museum of Harvard University, a reproduction of a beautiful example of ancient Mexican picture-writing. The re-discovery of this codex is due to the indefatigable researches of Mrs. Zelia Nuttall, in whose honor it has been named the Codex Nuttall by the Peabody

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Museum, thus acknowledging the indebtedness of Americanists to this accomplished scholar and interpreter of ancient Mexican culture.

In the introductory pamphlet which accompanies this facsimile reproduction of the codex, Mrs. Nuttall shows that it was probably one of two native books sent by Cortes from Vera Cruz to Charles V in 1519. She also shows that the date corresponding to 1519 of the Julian calendar occurs in the Mexican pictographs, and is precisely that of the year that Cortes landed at Vera Cruz. In a discussion of the contents of the codex, Mrs. Nuttall states that "although beings of celestial descent are sometimes figured, it is obvious that the text deals with real persons and is mainly historical. Priests are represented wearing, as was customary, the insignia of some of the chief divinities, such as the rain-god, Tlaloc, or of Quetzalcoatl, yet the text is certainly not of a religious nature."

She follows out the history of "Lady Three-flint" and also of "Lord Eight-hecatl, showing in this way the method, at least in part, of reading Mexican pictography, of which this codex is such a beautiful example. With the aid of Mrs. Nuttall's introductory pamphlet, students will be able to get a knowledge of Mexican picture-writing that has heretofore been hardly obtainable, and to the liberal patrons of American research who contributed to the publication of this valuable codex this Museum is, in common with others, greatly indebted.

Mrs. Nuttall designates the known Mexican codices as follows:

- I. Vatican Codex No. 3773.
- II. Borgian Codex.
- III. Bologna (Cospian) Codex.
- IV. F  j  rvar  y (Mayer) Codex.
- V. Laud Codex.
- VI. Bodleian Codex.
- VII. Selden Codex.
- VIII. (a) Becker Codex; (b) Colombino Codex.
- IX. Vienna Codex.
- X. Codex Nuttall.

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Nearly all of these have now been reproduced, and are exhibited in the Mexican Hall of the Museum with other examples of Mexican pictography, including maps and mural paintings. In the case with the Mexican codices are also placed reproductions of the "Maya" or Central American codices showing the hieroglyphics of that region, which are also well represented on the monuments in the same hall.

F. W. P.

NEWS NOTES.

THE Museum has received considerable valuable material through the kind efforts of Professor Bashford Dean of Columbia University, who returned last fall from a year's sojourn in Japan. In addition to the Ainu material obtained by him and presented by Mr. A. C. James, to which reference was made in the January JOURNAL, Professor Dean selected and purchased for the Museum a beautiful collection of siliceous sponges comprising thirty-seven specimens which represent sixteen genera and about twenty-six species. In the series there are several remarkably fine examples of the "Venus flower basket."

DR. EDGAR A. MEARNS, Surgeon U. S. Army, to whom the Museum is already indebted for many thousand specimens, has recently donated to the Department of Conchology a large series of specimens illustrating the littoral molluscan fauna of the vicinity of Newport, Rhode Island.

THROUGH the generosity of Percy R. Pyne, Esq., the Museum was enabled in March to purchase two unpublished paintings of birds by John J. Audubon. The subjects of these paintings are the Myrtle Warbler and the Red-Eyed Vireo.

MUCH additional material from the A. J. Stone Expedition to Alaska has been received recently, among which there are specimens of what proves to be a fine new species of Caribou and a new species or subspecies of Mountain Sheep. This expedition is the first of a series made possible through the efforts of Madison Grant, Esq., and supported by him and other friends of the

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Museum, for the purpose of securing to the Museum an adequate representation of the game mammals of the continent. The past season's work has been especially important because it has provided the Museum with fine material from Alaska, a portion of America heretofore practically unrepresented in our collections.

THROUGH the kindness of Dr. William T. Hornaday, Director of the New York Zoölogical Park, the Museum receives many valuable specimens of mammals and birds in the flesh. The following have been sent in since the first of January:

MAMMALS.—1 Brazilian Deer, 1 young Axis Deer, 1 Newfoundland Caribou, 1 Elk, 1 Spanish Goat, 2 American Antelopes, 1 Canada Porcupine, 2 Otters, 1 Crab-eating Raccoon, 1 Kinkajou, 2 Marmosets, 1 Spider Monkey, 3 Entellus Monkeys, 3 Cebus Monkeys, 1 Macacus Monkey, 1 Cercopithecus Monkey, 1 Mongoose Lemur.

BIRDS.—1 Flamingo, 1 Eagle, 2 Peacocks, 1 Peacock Pheasant, 1 Stork.

MRS. C. P. HUNTINGTON and Archer M. Huntington, Esq., have provided liberally for the continuation of the work begun in 1899 by the Anthropological Department of the Museum among the Indians of California, through the liberality of Mr. Collis P. Huntington. Some of the results of the work already accomplished by the Huntington expedition among the California Indians have been published this winter in the Bulletin of the Museum by Dr. Roland B. Dixon. The "Basketry Designs of the Indians of Northern California" is the title of the first of the series of publications issued by this expedition.

ANOTHER instalment of Siberian material collected by the Jesup North Pacific expedition was received at the Museum in March. This consists of 135 boxes containing specimens illustrating the customs of the tribes living on the coast of the Sea of Okhotsk and on the Asiatic coast of Bering Sea. The collection was made by Messrs. Jochelson and Bogoras. The largest object is a great sea-going umiak or Eskimo skin-boat. Among other important specimens in this collection are some bits of ancient pottery from the north coast of the Sea of Okhotsk. At the

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present time no pottery is used by the tribes inhabiting the coast of Siberia north of the Amur river, while on the North Pacific coast of America, pottery occurs only among a few Eskimo tribes of Alaska. The occurrence of prehistoric pottery in northern Siberia seems, therefore, to be of particular archaeological interest. The shipment contains also the large zoölogical collection made by Mr. N. G. Buxton, who accompanied the expedition.

DURING the first week in March Mr. C. E. Borchgrevink, the explorer who was in charge of the British Antarctic expedition, 1898-1900, and who spent a winter on the Antarctic continent, was the guest of the Museum. On March 7 he gave a highly interesting and instructive lecture in the Museum in which he described his travels and experiences in the extreme South. His lecture was illustrated by means of lantern slides, which gave a vivid idea of the difficulties and dangers met with and overcome by the explorer and his companions.

LECTURES.

IN coöperation with the Audubon Society of the State of New York and the Linnæan Society of New York City the Museum has offered to teachers a series of eight informal talks on birds, illustrated by specimens which can be handled freely for purposes of comparison and discussion. The object of these lectures, which are given on Saturday afternoons at 3 o'clock during April and May, is to assist teachers in instructing their classes in this very important and interesting branch of Nature Study. The list of subjects and speakers is as follows:

April 5 and 12.—“The Birds of Early Spring.” By FRANK M. CHAPMAN.

April 19 and 26.—“The Birds of April.” By WILLIAM DUTCHER.

May 3 and 10.—“The Birds of Early May.” By Dr. J. DWIGHT, JR.

May 17 and 24.—“The Birds of Late May, and Birds' Nests.” By C. WILLIAM BEEBE.

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Publications

The publications of the Museum consist of an Annual Report, in octavo, about 80 pages; the Bulletin, in octavo, of which one volume, consisting of about 400 pages, and about 25 plates, with numerous text figures, is published annually; the Memoirs, in quarto, published in parts at irregular intervals; an Ethnographical Album, issued in parts, and the American Museum Journal, published monthly, except June to September.

The American Museum Journal

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Volume II, Number 5

MAY, 1902

THE
AMERICAN MUSEUM
JOURNAL



WITH SUPPLEMENT ON
THE BUTTERFLIES OF THE VICINITY OF
NEW YORK CITY

Published monthly, except July to September, by
THE AMERICAN MUSEUM OF NATURAL HISTORY
New York City

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VOL. II.

MAY, 1902

No. 5.



OUR "Guide Leaflet" this month pertains to the Local Collection of Butterflies which is on exhibition in the Central hall of the third or gallery floor. It has been prepared by Mr. William Beutenmüller, Curator of Entomology, and is intended to be used for field identification of the species, as well as in the study of the specimens in the cases. All forms of nature-study are of interest and value in the education of children, but entomology seems to present some especially attractive features. The identification and study of the larger forms of the butterflies, moths, beetles, flies and so on is not difficult, and the habits of observation inculcated by the exercise are of lasting value to the pupil.



THE IO MOTH

(*Automeris io*) Hermaphrodite form, natural size.

In the collection of local Lepidoptera formed by the late S. Lowell Elliot, and presented to the Museum by Mrs. M. Schuyler Elliot, there is a very interesting specimen of a hermaphrodite

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form of the Io moth (*Automeris io*). The left side of the specimen shows, in the coloration of the wings, head, thorax and legs, and the structural characters of the antennæ, the features of the normal male, while the corresponding right side shows the features of the normal female, except the hind leg, which is like that of the male. In shape and size, the abdomen is like that of the female, while in color it is like that of the male, except that the under side is dull brown, as in the female.

NEWS NOTES.



DEPARTMENT OF VERTEBRATE PALÆONTOLOGY.—The preparation of the series of skeletons and bones representing the development of the horse, provided for by the liberality of William C. Whitney, Esq., is progressing satisfactorily. The skeleton of the three-toed horse, *Anchitherium*, which was discovered last season, has been mounted and placed on exhibition in the Hall of Fossil Vertebrates. This specimen has been the means of determining positively the occurrence of this marsh-living horse in this country, and has enabled Professor Osborn and his assistants to clear up the doubtful relations of many specimens which were obtained by Professors Leidy and Cope, but which were too fragmentary to be classified satisfactorily. *Anchitherium* was an animal about as large as a small Shetland pony, and differed especially from the Plains horses by having short-crowned teeth and by its broad-spreading three-toed feet which enabled the animal to walk over soft ground without sinking.

The Museum has also secured recently from South Dakota a considerable portion of an excellent specimen of *Mesohippus bairdi*, which, together with material already in the collection, will make possible the mounting of a skeleton showing this stage in the development of the Horse. *Mesohippus* was about the size of a sheep.

In preparing the comparative series of skeletons showing the

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differences produced in the horse by breeding or artificial selection, Professor Osborn has enlisted the aid of Professor J. C. Ewart, who is well known for his experiments at Penicuik, Scotland, in the interbreeding of horses and zebras. From Professor Ewart the Museum has secured a perfect Shetland pony, only $31\frac{1}{2}$ inches high, the smallest on record. The first of the series of horse skulls showing the development of the teeth will soon be placed on exhibition.

Six water-color paintings of horses, asses and zebras have been completed by Mr. Charles R. Knight, and put on view. This series has been made partly as a color-study for use in preparing the restorations of the extinct horses.

The type specimens of the species of horses described by Dr. Joseph Leidy have been loaned to the Museum by the United States National Museum and the Philadelphia Academy of Sciences, for purposes of comparative study.

The exhibit of *Titanotheres* in the northwest corner of the Hall of Fossil Vertebrates has been entirely rearranged to accord with the results of the studies which Professor Osborn has been making during the past winter for the United States Geological Survey. Small models of the heads of the four principal types of *Titanotheres* and of the ancestral form and a model of the running *Brontotherium* have been prepared by Mr. Knight, and are to be placed on exhibition near the fossil bones.



DEPARTMENT OF MAMMALOGY AND ORNITHOLOGY.—Mr. Frank M. Chapman, the Associate Curator of the Department of Mammalogy and Ornithology, is spending his vacation in making a cruise among the Bahama Islands, on a schooner chartered for the purpose, and is making collections of the birds and carrying on special studies of their habits.

THE course of Saturday afternoon talks and laboratory exercises in ornithology, given in the auditorium of the Museum during April and May, has proved to be popular, and is considered very instructive and helpful by the large number of teach-



THE RED-EYED VIREO

From one of two unpublished paintings by J. J. Audubon, obtained by the Museum through the liberality of Percy R. Pyne, Esq.

THE AMERICAN MUSEUM JOURNAL

ers and others who have attended the exercises. The programme of the series was given in the last number of the JOURNAL.

THE head of a large African elephant, mounted in realistic style, has been hung on the wall of the East Corridor hall of the second floor, and an excellent head of the two-horned African rhinoceros has been put in a similar position on the third floor. These specimens have been deposited with the Museum by Mr. William F. Whitehouse, Jr., of Banbury, England, an enthusiastic hunter of large game.

THE head of a large Alaskan moose, presented by Mr. L. S. Thompson, has been mounted and placed in the East Corridor hall, near the entrance to the main mammal hall. The head is remarkable, not only for its size, but also for the unusual development of the antlers, a series of tines having grown out from the middle of the palms on each side.

THE Osprey group, the material for which was collected last year on Gardiner's island by Mr. Frank M. Chapman, has been completed and placed on exhibition in the West Corridor hall of the third floor. It makes a notable addition to the series of groups representing the life history of birds.

THE birds and mammals brought back by Mr. N. G. Buxton as a result of his visit to northeastern Siberia, in connection with the Jesup North Pacific expedition, have been examined by the Department of Mammalogy and Ornithology. The material proves a valuable addition to the collections of the Museum for the purposes of study and exhibition. The value of Mr. Buxton's observations in Siberia is enhanced by the large series of photographs which he brought back with him.



DEPARTMENT OF ANTHROPOLOGY.—The Museum is fortunate in having procured for the Department of Anthropology the Raff collection of wood-carvings from the tribes of western Africa. The objects are mostly of religious or ceremonial character. All are old and in an excellent state of preservation.

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THE ethnological material collected by Mr. A. J. Stone on his first expedition to Alaska has been acquired by the Museum. The objects were obtained, for the most part, along the Mackenzie river and the Arctic coast and represent the early culture of tribes which have been greatly affected in late years by French missionaries.

MR. WALDEMAR BOGORAS has returned from his travels in Siberia, in connection with the Jesup North Pacific expedition, notices of which have appeared in the JOURNAL from time to time, and has begun the study of the large amount of material which he has collected and sent to the Museum.

GEORGE FOSTER PEABODY, Esq., has furnished the Museum with funds for the purchase of the Steiner collection of archaeological implements from Georgia, which forms a desirable addition to the Museum series representative of North American archæology.

B. TALBOTT B. HYDE, Esq., has purchased the Andrew E. Douglass library, which has long been at the Museum with the Douglass collection, and which contains many rare treasures of archæological literature, and has made it available for use in connection with the Hyde exploring expedition.

MISS M. W. BRUCE has presented the Department of Mineralogy with a large and showy group of calcite crystals from Joplin, Missouri. The chief feature of the group is a large composite scalenohedron, the top of which is capped by a single turban-shaped crystal.

EARLY in April Professor R. P. Whitfield returned from his vacation, which he spent visiting southern California.

MR. GEORGE H. SHERWOOD, the Assistant Curator of the Department of Invertebrate Zoölogy, has gone to Woods Hole to continue the experiments on the artificial propagation of the lobster which have been under way for some years by the United States Fish Commission.

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RECENT PUBLICATIONS.

THE following articles of Vol. XVI (1902) of the Museum "Bulletin" have been issued up to April 23:

A New Species of Elk from Arizona. By E. W. Nelson. 12 pages, 7 text illustrations.

Zimmermann's 'Zoologiæ Geographicae' and 'Geographische Geschichte' Considered in their Relation to Mammalian Nomenclature. By J. A. Allen. 10 pages.

The Crania of Trenton, New Jersey, and their Bearing upon the Antiquity of Man in that Region. By Aleš Hrdlička. 40 pages, 4 text figures, 22 plates.

Description of a New Form of *Myalina* from the Coal Measures of Texas. By R. P. Whitfield. 4 pages, 2 text illustrations.

Observations on and Emended Description of *Heteroceras simplicostatum* Whitfield. By R. P. Whitfield. 6 pages, 5 plates.

Description of a Terebratulid-like Shell from the Laramie Group. By R. P. Whitfield. 4 pages, 1 text figure, 2 plates.

The Four Phyla of Oligocene Titanotheres. By Henry Fairfield Osborn. 19 pages, 13 text illustrations.

Dolichocephaly and Brachycephaly in the Lower Mammals. By Henry Fairfield Osborn. 13 pages, 5 text illustrations.

The Generic and Specific Names of Some of the Otariidæ. By J. A. Allen. 8 pages.

A New Caribou from the Alaska Peninsula. By J. A. Allen. 9 pages, 6 text illustrations.

A Skull of *Dinocyon* from the Miocene of Texas. By W. D. Matthew. 8 pages, 4 text illustrations.

On the Skull of *Bunælorus*, a Musteline from the White River Oligocene. By W. D. Matthew. 4 pages, 3 text illustrations.

A New Bear from the Alaska Peninsula. By J. A. Allen. 3 pages, 2 plates.

A New Sheep from the Kenai Peninsula. By J. A. Allen. 4 pages, 2 text figures.

Description of a New Caribou from Northern British Columbia, and Remarks on *Rangifer montanus*. By J. A. Allen. 10 pages, 6 text figures.

THE AMERICAN MUSEUM JOURNAL

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| | |
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| Department of Public Instruction: | |
| Lectures to Teachers..... | 12,491 |
| Lectures to Members..... | 8,998 |
| Holiday Lectures to the Public..... | 5,056 |
| Columbia University Course of Lectures..... | 2,372 |
| Board of Education, "Free Lectures to the People": | |
| Tuesday Evening Course..... | 41,543 |
| Saturday Evening Course..... | 5,551 |
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| Audubon Society..... | 254 |
| Linnæan Society..... | 182 |
| Entomological Society..... | 100 |
| Anthropological Society..... | 43 |
| Mineralogical Club..... | 31 |
| Convention of the American Ornithological Union.... | 275 |
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| Total attendance, lectures, meetings and conventions | 76,896 |
| Other visitors to the Museum..... | 384,130 |
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| Total attendance for the year..... | 461,026 |

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JUNE, 1902

No. 6.

NEW ETHNIC GROUPS.



THE life-size ethnic groups illustrating the appearance and culture of the Eskimo, the Indians of the Northwest coast, the Indians of the Plains, etc., are being supplemented by a new series of groups, in miniature but representing more complex scenes. One of these, showing a village of the Thompson River (B. C.) Indians, with the people pursuing various occupations, was pictured in this JOURNAL, Vol. I, No. 10, p. 148. Another of the series shows some Eskimo, their snow dwellings, dogs, sleds, etc. The latest, recently put on exhibition in the Hall of North American Ethnology, represents the Sun Dance of the Arapaho Indians. This is quite an elaborate group, including 200 figures, each about four inches high. It shows a great circular open framework lodge, within which the dancers are arranged in a semi-circle, the people crowding around outside the lodge. By means of these small groups scenes of much greater scope than would be possible with life-size groups can be represented accurately and effectively.

THE DEVELOPMENT OF THE AMERICAN MUSEUM OF NATURAL HISTORY.

(Continued.)



THE DEPARTMENT OF ANTHROPOLOGY.—Very soon after the foundation of the Museum, archaeological collections from various parts of America began to come in. Their number increased rapidly, and led to the establishment of a special department of the Museum, which was put in charge of Professor Albert S.

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Bickmore. A number of important collections were purchased, which formed the nucleus of the Department. Among these, the Morgan collection from the Somme Valley, France, the Davis collection from the mounds of Ohio, the Squier collection of antiquities of South America and Central America and the Jones collection from Georgia are particularly worthy of mention. Some of these collections are of historical importance.

No systematic development of the Department was attempted during these years, although a considerable amount of archaeological and ethnological material continued to be received. During this period the primary interest was directed rather to the remains of the ancient inhabitants of our continent than to a representation of the customs of existing tribes; nevertheless a considerable amount of material from North America, as well as from South America, began to accumulate.

One of the most important donations to this Department during this period was that of a large collection from British Columbia, made by Dr. J. W. Powell of Victoria, B. C., and presented to the Museum in 1880 by Mr. Heber R. Bishop. About the same time Mr. Appleton Sturgis deposited a large collection of objects from the islands of the Pacific Ocean in the Museum, which later on was purchased by the Trustees. For a long time these two collections formed the principal ethnological exhibits of the Department. The material contained in the Bishop collection has been most admirably supplemented by a collection from Alaska, which the Trustees purchased in 1887 from Lieut. G. T. Emmons, who had been collecting ethnological specimens during a long-continued stay in that region. In 1894 this collection was still further improved by the purchase of a second collection made by Lieutenant Emmons. Mr. Henry Villard engaged Dr. Carl Lumholtz to carry on for the Museum researches in northern Mexico. Later on this work was also continued at the expense of the Museum until its completion in 1898.

While thus the ethnological collections of the Museum were increasing, the growth of the archaeological material also continued. In 1880 Mr. James Terry brought to the Museum his

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large and varied collection, which covers almost the whole of the North American continent, and which is particularly rich in objects from California and Oregon. In 1891 this collection was purchased by the Trustees. Another valuable archaeological collection which was brought to the Museum about this time was that of Mr. Andrew E. Douglass. It contains a great number of exquisite specimens, and is arranged so as to show synoptically the various types occurring in North America. Shortly before his death in 1901, Mr. Douglass donated his entire collection to the Museum.

The growth of the Department made it necessary to place it under the charge of a special curator. For a number of years Professor Bickmore had combined the direction of the Department with numerous other duties connected with the Museum. After a few years of experiments the Department of Archaeology and Ethnology was established under the curatorship of Mr. James Terry, who retained this position until 1894. In January, 1894, Mr. Marshall H. Saville entered on the duties of Assistant Curator, and later in the same year Professor F. W. Putnam was appointed to the curatorship. With this time commenced the systematic development of the Department by means of expeditions organized for the purposes of collecting and research. The two expeditions which had been entered upon under the curatorship of Mr. Terry were continued, but numerous other enterprises, which were decided upon according to the needs of the Department, were organized.

Owing to the peculiar manner in which the Department had grown, the collections were very unsystematic. From some regions excellent and exhaustive material had been received, while other districts were not represented at all. Since the Museum had never undertaken any archaeological research, there was not a collection that represented the archaeology of any definite area fully. For this reason it was one of the first undertakings of Professor Putnam to send collectors to carry on researches in a few typical fields. Mr. Harlan I. Smith explored some of the stone graves of Kentucky, while Dr. George A. Dorsey and Mr. C. L. Metz carried on similar work in Ohio.

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It seemed of especial interest to investigate the archæology of New York State, more particularly in the vicinity of New York City. Work in this region was carried on for a number of years by Mr. M. H. Saville, Mr. George H. Pepper, Mr. Harlan I. Smith, and of late years by Mr. M. Raymond Harrington. Much of the expense of these undertakings has been defrayed by friends of the institution.

The interesting gravels of Trenton, N. J., in which artifacts have been found to considerable depths, seemed to require further examination, in order to determine as accurately as possible the distribution of such objects in the various layers of the gravel. This work, which has been carried on by Mr. Ernest Volk, has continued from 1893 up to the present time, and has yielded very accurate information on this much-discussed question. The painstaking investigations of Mr. Volk have been supported by the liberality of Dr. F. E. Hyde and the Duke of Loubat.

One of the most important inquiries organized by the Museum is the archæological investigation of the ruins of the Southwest. The Museum was enabled to undertake this work by the enthusiasm and the liberality of Mr. B. Talbot B. Hyde and Mr. Frederick E. Hyde, Jr., who organized an expedition to the Southwest in 1894. From 1895 on, the archæological work of the expedition has been carried on principally by Mr. George H. Pepper. The specimens obtained through these researches are of very great interest, and the scientific results are of considerable importance.

Investigations in Mexico and Central America were also taken up with great vigor. The Museum was enabled to carry on extensive work in this district, particularly through the liberality of the Duke of Loubat, who has done so much to advance our knowledge of Central America and Mexico. He donated to the Museum a complete collection of all the existing reproductions of Central American sculptures, so that the student finds in this Museum unequalled opportunity for the study of Central American antiquities. The Duke of Loubat also sent the well-known Americanist, Prof. Eduard Seler, to Mexico in the joint

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interests of the American Museum of Natural History and the Royal Ethnographical Museum of Berlin.

Later on, Mr. Marshall H. Saville succeeded in obtaining permission from the Mexican Government for the American Museum of Natural History to conduct archæological researches in Mexico. Based on this agreement, a number of expeditions have been undertaken, which again have been largely supported by the Duke of Loubat. Mr. Saville has carried on researches in the states of Chiapas and Oaxaca, which have yielded results of considerable scientific interest, and which have added materially to the treasures of the Department.

Dr. Lumholtz's expedition, before mentioned, has yielded a large amount of archæological material also from the northwestern parts of Mexico, so that now the Mexican archæological collections of the Department occupy a prominent place among the museums of our time.

In 1891 Mr. Henry Villard sent Dr. Adolph Bandelier to South America to make collections and investigations for the American Museum. This work was continued until 1894 at the expense of Mr. Villard, and after that time at the expense of the Museum. The investigations were completed in 1900. These researches of Dr. Bandelier have brought to the Museum a vast amount of valuable material, accompanied by accurate notes made by the collector, whose great knowledge of the early history of America makes him particularly competent to deal with these subjects.

At the time when Professor Putnam was appointed Curator, the ethnological collections of the Department, and those relating to physical anthropology, were very unevenly developed. While some regions were very well represented, collections from others were very deficient. In 1895 Dr. Franz Boas was appointed Assistant Curator in the Department, to take charge of these collections. A number of expeditions which had been organized previously brought in a considerable amount of ethnological material. Dr. Lumholtz sent from northwestern Mexico material of very great value. The culture of the people whom he investigated showed certain resemblances to the ancient culture

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of Mexico, as well as to that of the Pueblos. On a renewed expedition in 1898 he added considerably to the material previously accumulated. On this expedition he was accompanied by Dr. Aleš Hrdlička, who devoted his energies to a study of the physical types of the Indians of northern Mexico, and who, during this and subsequent years, has contributed very largely to the growth of the collections relating to physical anthropology. His investigations were carried out first in connection with Dr. Lumholtz's work in Mexico, and later in connection with the Hyde Southwestern expedition.

In 1895 Lieut. R. E. Peary returned from one of his expeditions to North Greenland. Since on this expedition he was materially assisted by President Morris K. Jesup, the ethnological material collected from the Eskimo of Smith Sound by him became the property of the Museum.

In 1897 President Morris K. Jesup provided the means for a thorough investigation of the tribes of the North Pacific coasts of America and Asia. This undertaking, which was organized under the name of "The Jesup North Pacific Expedition," has continued for six years, from 1897 to 1902. During this period a considerable number of expeditions have been sent into the field; and the tribes of the North Pacific coast, beginning in the west with the Amur river, in Siberia, including the various native tribes between the Sea of Okhotsk and the Arctic sea, and the peoples of Alaska, British Columbia and Washington, were investigated. The collections brought home by the investigators, eleven in number, make up a very considerable portion of the ethnological collections of the Department. The scientific results obtained by the expedition are extensive, and important contributions to our knowledge of the tribes of this area have been made by the various sections of the expedition.

Very little work had been done by the Museum on the Indian tribes of the Plains and of California. Investigation in these regions was provided for in 1899 by the liberality of Mrs. Morris K. Jesup, Mr. Henry Villard and Mr. C. P. Huntington. This work has been continued from year to year, partly through the support of the patrons of science named, partly by the Trustees

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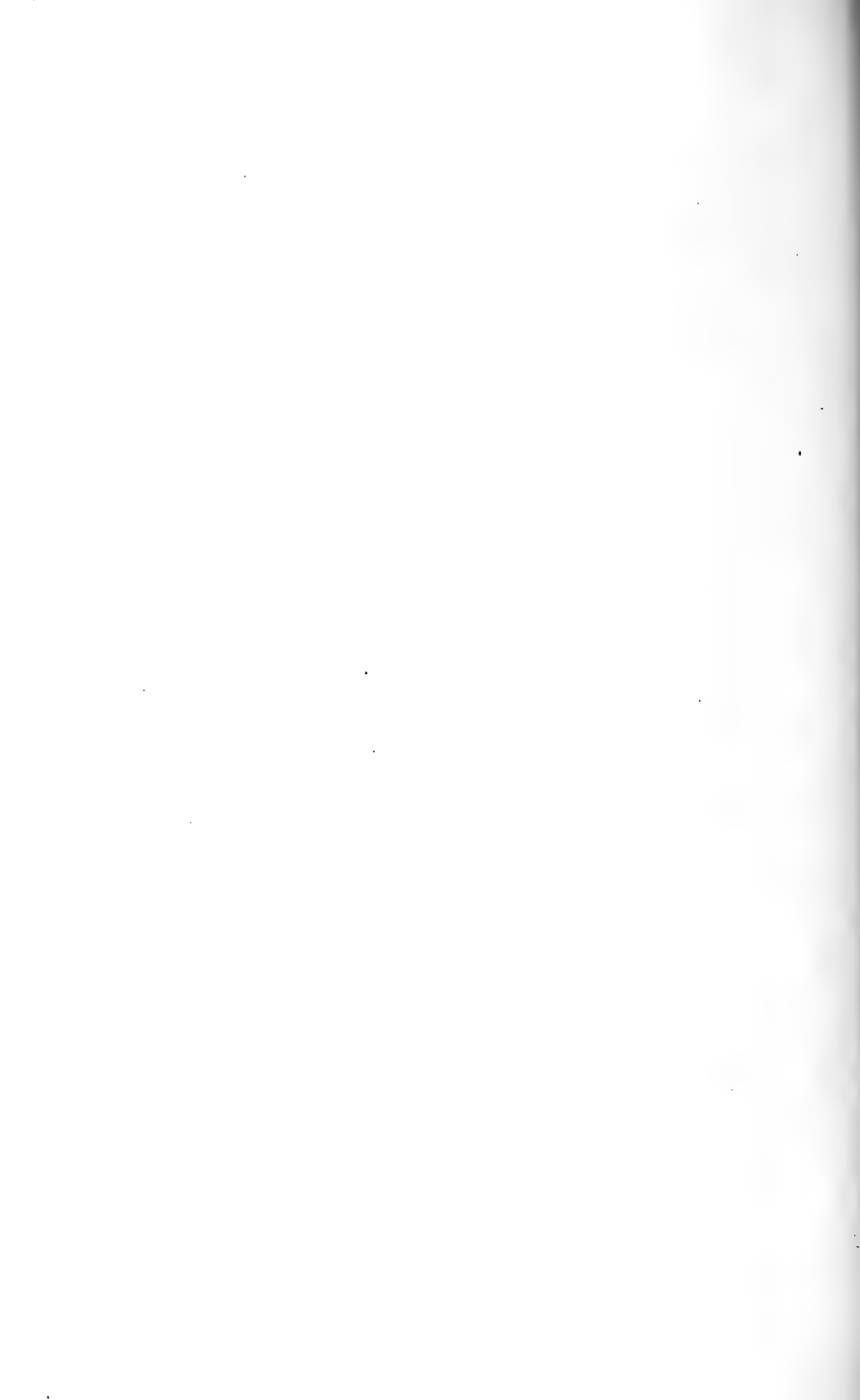
and partly by Mr. Archer M. Huntington and Mrs. C. P. Huntington. Attention has been paid particularly to securing information regarding the rapidly vanishing tribes, and to securing for the Museum specimens illustrating their culture. This work is still in progress, and needs vigorous prosecution. The principal collections obtained through these researches are from the Eskimo of Baffin Bay and Hudson Bay, from various tribes of the Plains, and from California and Oregon.

The political events of the last few years seemed to make it desirable that the Museum should expand its activity beyond the limits of our continent. It seemed one of the necessary educational functions of the Museum to show to the public the forms of culture developed in foreign continents. This led to the establishment of a Chinese section, the means for which were given by an anonymous donor. The work of making these collections has been intrusted to Dr. Berthold Laufer, who is spending a number of years in China, collecting for the Museum.

The Department is carrying on its work in many directions. It is constantly adding to its collections, and is contributing to the advancement of science by numerous publications based on its expeditions. The work that the Department has to do is extensive and at the same time most urgent, because the native races and their remains are disappearing rapidly before the advance of our civilization.

F. B.

THE expeditions for fossil horses on the William C. Whitney fund, which were so successful last season, will be continued this year in eastern Colorado, following the unexplored portions of the Protohippus Beds in the hopes of securing a complete skeleton of this usually fragmentary animal. At the same time a vigorous search will be made in western Nebraska for the same fossil species of horse, in the locality where Professor Leidy first discovered this animal. An expedition for Cretaceous Dinosaurs will go to either Wyoming or Montana and the famous Bone Cabin Quarry in central Wyoming will be further explored for large Jurassic Dinosaurs.



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OCTOBER, 1902

No. 7.



THE sessions of the International Congress of Americanists are to be held in the halls of the Museum October 20 to 25, inclusive, and elaborate preparations have been made to insure the complete success of the convention, especially since this will be the first time that the meetings of this association have been held in the United States. A brief history of the inception and growth of the Congress and an extended notice of the meetings to be held this month in the Museum were published in the JOURNAL for March last. The present number contains two articles which will be of especial interest to the members of the Congress and to others interested in anthropology. These are the statements regarding the extensive ethnological work being carried on by the Museum, under the supervision of Professor Boas, and a summary account of the recent expedition by Dr. Hrdlička, which lasted seven months and continued the field work of the investigations which he has been carrying on for several years among the Indian tribes of the Southwestern States and Mexico. Investigations of particular moment to the Americanists have been carried on in Mexico by Mr. M. H. Saville and will be made the subject of special communications to the Congress. A report of the proceedings of the Congress may be expected in the December number of the JOURNAL.

The present issue of the JOURNAL is not accompanied by a supplement, but it contains more than double the usual number of pages and in addition to the anthropological articles just mentioned is devoted to reports from some of the expeditions sent out by or under the auspices of the Museum during the past summer season. Other reports may be expected in future numbers.



LA SOUFRIÈRE, ST. VINCENT.
From photograph by E. O. Hovey, taken May 24, 1902.

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A VISIT TO MARTINIQUE AND ST. VINCENT AFTER THE GREAT ERUPTIONS OF MAY AND JUNE, 1902.



WHEN, early in May, the news came that the supposedly extinct volcanoes of Mt. Pelée, on the island of Martinique, and of La Soufrière, on the island of St. Vincent, had suddenly burst into violent eruption, destroying thousands of human lives and millions of dollars' worth of property, Mr. Morris K. Jesup, President of the American Museum of Natural History, perceived the scientific value of the opportunity thus offered for the study of vulcanology, and it was decided immediately to send the writer to the islands as the representative of the Museum to investigate the phenomena of the eruptions. I left New York on the United States cruiser *Dixie* May 14, and arrived in Martinique May 21. At this time two days were devoted to the study of St. Pierre and its desolation, and then I went on with the *Dixie* to St. Vincent. A man-of-war is a part of the country to which she belongs, so that I felt as if my home-land were going away from me, when the *Dixie* sailed from Kingstown May 29, leaving me to continue my investigations there before returning to Martinique. I wish here to express my appreciation of the hospitality of Captain R. M. Berry, U. S. N., and other officers of the cruiser.

Nearly three weeks were devoted to the study of the Soufrière on St. Vincent, excursions and investigations being made from both sides of the island, and my work was greatly facilitated by Mr. F. W. Griffith, government clerk, acting under general instructions from Sir Robert Llewellyn, C. M. G., Governor of the colony, and by T. M. MacDonald, Esq., of Wallilabou, and James E. Richards, Esq., of Kingstown. My colleagues, Dr. T. A. Jaggard, Jr., and Mr. George Carroll Curtis, and I, accompanied by Mr. MacDonald, were the first persons to attempt the ascent of the Soufrière after the great eruptions. We accomplished our task on a perfect day, May 31, and were well rewarded for our effort and risk. We found the crater to be a vast pit about nine-tenths of a mile wide and 2400 feet deep below the highest point



MT. PELÉE AND THE RUINS OF ST. PIERRE, MARTINIQUE. PLACE BERTIN IN THE FOREGROUND.
From photograph by E. O. Hovey, taken June 14, 1902.

THE AMERICAN MUSEUM JOURNAL

of the rim. The old crater lake, for which the volcano had been famous before the eruption, had disappeared, of course, but a small boiling lake had formed in the bottom of the great cauldron, since the last outburst. Ever since the great eruption of 1812, La Soufrière had had two craters in its top, a small one having been formed at that time just outside the large old pit on its northeast side. Did this, so-called, "New" crater participate in the May eruptions? This important question was decided June 9 when I stood upon its edge in company with Mr. Curtis and a negro guide. The condition of the interior, of the saddle between it and the large crater and of the rim itself showed that the small, or 1812, crater had felt no sympathy with the large crater in the eruption of May of the present year. This eruption had returned to the outlet made use of in the eruptions of 1718 and before.

After an all too short stay upon St. Vincent, Mr. Curtis and I left on June 10 for Martinique. On our way north we chartered in St. Lucia a sloop of eleven tons register, which we kept with us during our stay near the scene of action of Mt. Pelée. We passed through St. Pierre several times and traversed the adjoining hills, or "mornes," and the slopes of the volcano in several directions. Four times (June 18, 20, 24 and 26) we stood upon the rim of the great active crater and looked upon a scene of wild and terrifying grandeur within and without the throat and gorge from which had issued the steam, gases, dust and stones that carried death and destruction to the beautiful city of St. Pierre and its inhabitants, lying in a *cul-de-sac* in the path of the volcanic tornado-blast, as helpless as an animal in a trap. We were the first to ascend the mountain from the west since the eruptions began on May 8, and we followed the plateau and ridge between the Sèche and Blanche rivers on June 24 and 26. Our days were not devoid of exciting and even dangerous experiences, but discussion of such features must be left to another time.

The devastation wrought by the eruption cannot be appreciated from a verbal description, and even photographs do not convey an adequate idea of what has happened, unless one is



"BREAD-CRUST" VOLCANIC BOMB FROM MT. PELÉE
The specimen is 2 feet 2 inches in height

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familiar with the rank vegetation which clothed the slopes of these mountains with tropical verdure before the eruptions took place. Ejecta in the shape of dust and lapilli (= volcanic sand and gravel) were scattered all over the islands and distributed over a very wide area beyond, but the "area of devastation" may be considered to be confined to the limits within which buildings were destroyed and crops ruined for the time being. Plotting these areas on the British Admiralty charts as well as possible without actual surveys and then measuring the areas with a planimeter, I find that about 46 square miles, practically one-third, of the island of St. Vincent, and about 32 square miles, one-twelfth, of the island of Martinique were laid waste by the material thrown out by the volcanoes between May 5 and July 6. Within a few months the tropical rains will have washed the coating of ashes from a large portion of these areas and vegetation will hide the ruin wrought by the eruptions; while, unless the activity continues severe, a very few years will suffice to restore the islands to their former verdure. Over much of the devastated district on each island the roots of the grass and other vegetation were not killed and even before my departure from Martinique, July 6, the hillsides overlooking St. Pierre were becoming green and the grass was asserting itself much nearer to the centre of destruction. I found uninjured grass roots within ten feet of the very rim of the crater. But nothing can restore life to the 30,000 human beings swept out of existence on Martinique and to the 1350 persons destroyed on St. Vincent. The sugar factories will be long in rebuilding, especially upon St. Vincent, whence prosperity departed years ago and where the people have been impoverished by a series of hurricanes and by the decline in the price of sugar.

The material thrown out by both volcanoes contains fragments of the old surface rocks of the islands as well as fresh lava brought up from the earth's interior by the present activity. The proportion of old lavas in the ejecta of La Soufrière seems to be greater than it is in the ejecta of Mt. Pelée, though the largest blocks have been thrown out by the latter. A monster of this kind lies upon the plateau between the Sèche and Blanche rivers not

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more than 200 yards from the site of Guérin sugar works—the first notable victim of the fury of Pelée. This block is about 22 feet high, 30 feet long and 24 feet broad, and the day I photographed it (June 25) it was still very hot. It may have been thrown out during the great eruption of June 6. More interesting, however, than the “ejected blocks” are the “bread-crust bombs.” The former were cast out of the crater in a heated, but not molten condition, while the latter are masses of lava which were thrown out of the volcanoes in a melted or partly solidified condition. The bombs are glassy in structure but contain porphyritic crystals, the interior being porous in texture, while the exterior is solid. The solid exterior in cooling contracted and formed gaping cracks in every direction, the result giving an appearance like the crust on a loaf of bread, hence the name. I brought several of these bread-crust bombs to the Museum from each volcano, and a choice specimen 26 inches across, from Mt. Pelée is now on exhibition. The bombs thrown out by Pelée were of all sizes, from those weighing a few ounces up to one about 15 feet long which we found on the eastern rim of the crater. There had been no *stream* of lava yet from either volcano in this series of eruptions, up to the time of my leaving the islands.

The activity of La Soufrière seems to have been concentrated in two violent efforts resulting in the eruptions of May 7 and 18, when more material was thrown out than had been ejected from Mt. Pelée up to the time of my departure. After May 18 La Soufrière became less and less active (though a severe earthquake was reported from Kingstown, St. Vincent, July 17), until late in August, when activity increased and there were terrible eruptions August 30 and September 3. Mt. Pelée, however, has had many severe outbursts since the memorable 8th of May, and even as I pen these words cable dispatches relate some of the particulars of great eruptions which took place in the last days of August and early in September. These outbursts are reported to have been greater than any of their predecessors, and Morne Rouge is said to have been destroyed August 30. I spent four nights at this beautiful village in June

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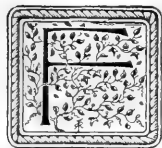
and could see no reason then for its escape from destruction by the eruptions.

It seems as if Pelée were following the history of the 1883 eruption of Krakatoa, which began vigorously in May and culminated in a grand explosion in the latter part of August which partly destroyed its island. Mt. Pelée's great outbursts this year have been on an ascending scale of magnitude, though decreasing in frequency, but it is not wise to attempt to predict what will happen before the volcano becomes quiet again.

A preliminary report upon the writer's observations during his stay upon the islands is in press and will be issued soon as a part of the *Museum Bulletin*. This report will be illustrated with maps of both islands and many photographs, most of which are from negatives taken by the writer. The recent great outbursts, however, have made further important changes on the islands, necessitating additional studies before a final report can be prepared.

EDMUND OTIS HOVEY.

RECENT ETHNOLOGICAL WORK OF THE MUSEUM.



FOR many years the ethnological collections of the Museum have been housed temporarily in various halls. The completion of the southwest corner of the building has made it possible to advance the permanent installation materially. For a number of years the collections from the North Pacific coast of America have been on exhibition on the ground floor of the north wing. When the west wing and the southwest corner building were erected, the ground floor of each was allotted to ethnological collections.

Two points of view seemed most important in planning for the development of these collections. On the one hand, the principal aim of an ethnological exhibit had to be borne in mind. This is to illustrate the various forms of human culture, bringing home the fundamental unity of the human mind, and showing how its achievements depend upon history and environment.

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To accomplish this, representative collections from all the races of man are required. On the other hand, in an American museum, the achievements and the history of the American race are naturally of prime interest, so that it has seemed desirable to treat problems relating to America, and particularly North America, with special care. The efforts of the Museum have been in these two directions, and have been carried forward since 1895 under the supervision of Prof. Franz Boas.

On account of the rapid disappearance of ancient customs among the North American Indians, and the importance of preserving all we can of what pertains to the natives of our own country, work on this continent was taken up first. The field is so vast, however, that concentration on certain lines seemed necessary. One of the least explored fields in American ethnology is found in California and Oregon. Through the liberality of the late C. P. Huntington and of the late Henry Villard, the Museum was enabled to start this work, which was intrusted to Professor Livingston Farrand and Dr. Roland B. Dixon. Later, the funds for continuing the work in this region were provided by Mr. Archer M. Huntington and by Mrs. Arabella Huntington. This work is still in progress.

The efforts of the American Museum in behalf of Californian ethnology have had the effect of stimulating the University of California to like endeavor. Mrs. Phoebe A. Hearst has provided funds for ethnological work, which has been placed in charge of Dr. A. L. Kroeber, who was a valued collaborator of the American Museum of Natural History. Through the co-operation of Messrs. Dixon and Kroeber, and co-ordination of their work our knowledge of the tribes of California has been much advanced, and the Museum is now in possession of considerable collections from the northern part of that State. The work in Oregon also is still in progress. Professor Farrand, during the first year of his field work, devoted himself to the study of the coast tribes, while at present he is investigating the Sahaptin.

Another task which has seemed of great importance is the investigation of the decorative art of the North American Indian. This work has been carried on particularly by Dr. Kroeber and

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Dr. Clark Wissler. Dr. Kroeber made this the most important part of an investigation of the Arapaho, the funds for which were provided through the liberality of Mrs. Morris K. Jesup. During the present year, the inquiry is being continued by Dr. Wissler, among the Dakota. Through the work of these collectors and the special attention paid by other investigators to the same problem, the Museum possesses an unrivalled collection, illustrating diverse forms of primitive art. Besides the collections from the Arapaho and the Dakota, such collections from Mexico, California, the North Pacific coast, the interior of British Columbia, and from the Amur River are on exhibition.

Two other important investigations have been taken up by the Museum—one, a study of the Shoshone tribes, which has been intrusted to Mr. H. St. Clair, 2nd; and the other, the study of the Algonquin tribes, which is in the hands of Mr. William Jones. These two investigations are being carried on jointly by the Museum and the Bureau of American Ethnology. The student who tries to understand the customs of a people must study their language, if his work is to be thorough. It is therefore of great advantage when linguistic and ethnological work can be done together. The Bureau of Ethnology is making linguistic researches, and therefore co-operation between the Bureau and the Museum is highly advantageous to science. The ethnological work of Messrs. Jones and St. Clair is done for the Museum, while their linguistic researches, largely based on records of tribal traditions, belong to the Bureau of Ethnology. During the present year, Mr. Jones is continuing his studies of the Sauk and Fox, while Mr. St. Clair is spending the greater part of the summer among the Comanche. He is also going to make a brief tour of all the Shoshonian tribes with a view of laying out the work for the coming years. Mr. Jones's work is intended to cover, in course of time, other Algonquin tribes.

Investigations are being carried on also among the Salish tribes of Washington and British Columbia. Some of these tribes had been studied before, in connection with the work of the Jesup North Pacific expedition, because knowledge of their culture is required for a clear understanding of the culture of the

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North Pacific coast. Other tribes of this stock live far to the east and south, and their culture is more closely related to that of the tribes east of the Rocky Mountains. Researches among them are being carried on by Mr. James Teit, who already has done much excellent work for the Museum.

During the present year, work has also been taken up among the northern Athabascans, who up to the present time have been practically unknown. Collections and inquiries among the eastern Eskimo, in Hudson Bay and Baffin Land, which were begun several years ago, are still in progress.

Much work has been done toward the formation of an exhibit of the types of man found in aboriginal America. The collections that have been made consist of skulls, skeletons, photographs and plaster casts. Great weight has been laid particularly on the last feature, because this seems the only feasible method of permanently preserving the vanishing type of the American natives. Collections of types from the North Pacific coast, California, Dakota, Smith Sound, New York, Mexico, the Southwest, Siberia and Japan are in the Museum. A special report of work in this line, done by Dr. Hrdlička, will be found on another page of this number of the JOURNAL.

The field work of the Jesup North Pacific expedition, which has occupied a large share of the attention of the Department for several years, will be finished during the present summer. The object of the expedition was a thorough exploration of the tribes of the North Pacific coast, both in Asia and America, with a view of determining the complex history of this area and the early relations between the tribes of Asia and America. The collections of this expedition, in which twelve scientists have taken part, are very exhaustive, and cover the whole area from the Columbia river in America to the Amur river in Asia. In April last Mr. Waldemar Jochelson completed his difficult journey from Gishiga, on the Sea of Okhotsk, to Yakutsk. His reports were received in August. He writes "Our journey from Gishiga to Verchne-Kolymsk, occupied 56 days. We left Gishiga Aug. 15 and reached Verchne-Kolymsk Oct. 9, 1901. This was the most difficult journey I have ever undertaken. The trail as far

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as the Stanovoy Mountains, was tolerable, but further west, swamps, rivers, mountain-passes, and almost impassable thickets made progress very difficult. On the upper course of the Korkodon we had to rest our horses. The cold became more intense day by day. In order to reach Verchne-Kolymsk before the closing of the rivers, I left my Yakut guides to follow with the pack train and started on a raft down the Korkodon, to reach the uppermost village of the Yukagheer. There I hoped to meet boats that I had previously ordered. This journey by raft occupied nine days. The river is very rapid, full of driftwood, and the descent was full of dangers. I stayed among the Yukagheer of the Korkodon for four days, in order to collect specimens and information. Then we continued our hurried journey by boat. On Oct. 7, when we were still 45 versts away from Verchne-Kolymsk, the river froze up, and we had to continue our journey on foot. On Oct. 21, when the weather had become somewhat settled, we visited the winter quarters of the natives, who live about 70 versts from Verchne-Kolymsk, and staid with them until Nov. 17. During this time I made a collection of ethnological specimens, photographs, masks in plaster of Paris and anthropometric measurements, and added to the information collected on my first expedition. I proceeded next to Nishne-Kolymsk where I studied the Yukagheer of that district. This work occupied the time until Feb. 15, 1902." After his return from this district, Mr. Jochelson turned his attention to the study of the Yakut, among which tribe he made a considerable collection.

The work of the Jesup expedition has contributed much to the Asiatic collections of the Museum, which have been made largely with respect to their bearing upon problems of American ethnology. In adding to the general collections of the Department, the same point of view has been adhered to throughout. It has seemed best to develop first those collections which have an immediate practical and scientific interest for America, while scientific considerations have led us to develop the Siberian collection. The culture of Siberia has been much influenced by China, which is occupying a more and more important place in

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the affairs of the world. For this reason a start has been made with the establishment of a Chinese department. The funds for this important enterprise were given by a friend of the Museum and the work has been placed in charge of Dr. Berthold Laufer, who had previously done work on the Amur river for the Jesup expedition. The object of his work is to make a collection illustrating the popular forms of the industrial, social and religious life of the Chinese, and to elucidate by a few selected collections the historical development and far-reaching influence of Chinese culture.

The comprehensive plan that has been pursued in the development of the Department has made it necessary for a number of years to elapse before a somewhat systematic exhibit could be made and for wide gaps to exist in many directions. At the same time, however, the method pursued has made it possible to make each exhibit a unit which has a definite scientific and educational significance. The scientific publications of the Department have kept pace with the building up of the collections and publications and collections illustrate each other.

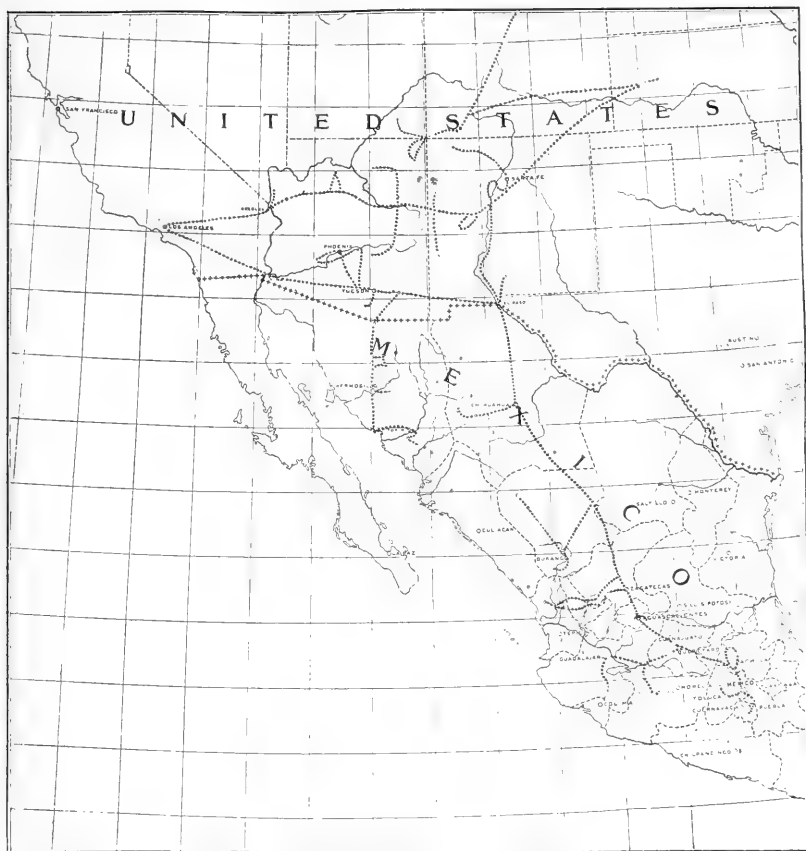
The general location of these ethnological collections in the Museum is as follows: The ground floor in the north wing contains material from the North Pacific coast; the west wing, collections from the Arctic coast of America and from the Plains; the southwest corner, those from Siberia. On the second floor of the west wing are the ethnological collections from the Southwest and from Mexico. In the gallery of the southwest corner, those from China, Japan, Polynesia and Africa.

ETHNOLOGICAL WORK IN THE SOUTHWESTERN UNITED STATES AND MEXICO.



R. A. HRDLIČKA recently returned, after a little more than seven months' absence, from a successful trip to the southwestern United States and northern Mexico. This expedition, the fourth of the series devoted to the physical anthropology of the regions mentioned, has been referred to in Vol. II, No. 1, of the JOURNAL.

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MAP SHOWING THE ROUTES FOLLOWED BY DR. HRDLIČKA IN HIS INVESTIGATIONS
AMONG THE INDIANS OF THE SOUTHWESTERN UNITED STATES AND MEXICO.

All these expeditions, whose main object was the acquisition of a knowledge of the physical features of the present as well as of the ancient Indian populations over the territory covered before the advent of whites by the Cliff-Dwellers, Pueblos and branches of the Nahuas (among which are the Aztecs), were carried on by Dr. Hrdlička, under the supervision of Prof. F. W. Putnam, for the American Museum, the means being very generously furnished by Mr. Fred. E. Hyde, Jr.

The territory covered by the investigations is the most extensive ever covered in similar work by one observer. It extends

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uninterruptedly from southern Utah and Colorado in the United States to the State of Morelos in Mexico. The Indian tribes which to-day inhabit this region, and all of which, with the exception of the Seris,¹ have been visited and examined on the four expeditions, are as follows:

UNITED STATES:

| | | |
|------------------------|--|---------------|
| Southern Utah..... | Pah-Utes. | |
| Southern Colorado..... | { Utes. | |
| | { Jicarilla Apaches. | |
| New Mexico..... | { Navahos: | { Taos. |
| | { Rio Grande Pueblos | { San Juan. |
| | | { Jemez. |
| | | { San Felipe. |
| | | { Cia. |
| | | { Isleta. |
| | { Southwestern Pueblos | { Laguna. |
| | | { Acoma. |
| | | { Zuñi. |
| | { Mescalero Apaches | |
| | { Hopi Pueblos. | |
| | { White Mountain and San Carlos Apaches. | |
| | { Mohaves, eastern and western. | |
| | { Suppais. | |
| Arizona..... | { Hualapais. | |
| | { Papagos. | |
| | { Pimas. | |
| | { Maricopas. | |
| | { Yumas (mostly in California). | |

MEXICO:

| | |
|----------------|--------------------|
| Sonora..... | { Opatas. |
| | { Yaquis. |
| | { Mayos. |
| | { Seris. |
| Chihuahua..... | Tarahumares. |
| Durango..... | Tépehuanes. |
| Tepic..... | Coras. |
| Jalisco..... | { Huichols. |
| | { Tepecanos. |
| | { Nahuas (Tuxpan). |
| Hidalgo..... | Otomis. |
| Mexico..... | Mazahuas. |
| Michoacan..... | Tarascos. |
| Morelos..... | Aztecs. |

¹ A small, dangerous tribe living on Tiburon island in the Gulf of California. The data obtained on the Seris are restricted to measurements of one complete skeleton, two skulls and one living individual.

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The material obtained on the four expeditions comprises measurements of and observations on nearly 3000 individuals, over 1500 photographs, about 300 skulls and skeletons, 120 facial casts and about 3000 ethnological and archæological specimens. The skulls and skeletons gathered are mostly those of extinct tribes, and will furnish important measurements and observations for comparison with those of the present Indians of the region. Moreover, besides showing the racial characteristics, the bones are of value in showing the relative frequency of fractures and various pathological conditions,—matters which are of special interest to members of the medical profession. The specimens and casts will in time be placed on exhibition.

The data obtained will be elaborated by Dr. Hrdlička, and will appear in the publications of the Museum. A somewhat detailed report of the work will be read before the Congress of Americanists, which will meet at the American Museum this month. The accumulated data should, especially in connection with similar and contemporaneous work done by Professor Starr in southern Mexico and under Professor Boas along the northwestern coast, add materially to our knowledge of the physical status of the American aborigines.

Some of the specimens secured on this year's expedition deserve special mention. Among the skulls there are eleven of Otomis; an ancient, well-preserved male cranium from the ruins of Tula (the supposed Toltec capital); and twelve skulls of the Yaquis. Eleven of the last-named were obtained, with some ethnological specimens, from the recent Yaqui-Mexican battlefield in the Sierra of Mazatlan, in Soñora, and one is that of an executed and then half-cremated Yaqui prisoner from the Yaqui river. Among the ethnological specimens there is a series of interesting objects from the sacred cave of the Huichol Indians (Jalisco), some exceptionally well woven Yaqui baskets, two fine examples of old Nahua beadwork, two rare Mayo blankets, a collection of the native food-stuffs of the Hualapais, etc. Among the photographs the most prized are those of the Yaquis, with views of their country, including several picturesque Mexican fortified posts or barracks.

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The success of the several expeditions of Dr. Hrdlička is due in no small degree to the kind and efficient assistance he received from the authorities both of the United States and of Mexico, for which the Museum takes this occasion to express grateful acknowledgment. Through the courtesy of the authorities of the Mexican National Museum, Dr. Hrdlička was enabled to examine the valuable craniological collection in that institution. A word of grateful appreciation is due also to the officers of the railroads utilized, and particularly to those of the Santa Fé and the Mexican Central, for their aid to the expedition.

DEPARTMENT OF PUBLIC INSTRUCTION.

AUTUMN COURSE OF LECTURES TO TEACHERS.

BY PROFESSOR ALBERT S. BICKMORE.

October 18 and 25.—The Swiss Alps.

November 1 and 8.—The French Alps.

November 15 and 22.—Historic Towns of Central France.

November 29 and December 6.—Historic Towns of Southern France and the French Riviera.

NEWS NOTES.



DURING the past three months there have been some notable additions to the gems and gem material comprised in the Morgan gift. The most striking of these are the large blocks of Amethyst crystals which were found in a recently discovered grotto in Rio Grande do Sul, Brazil. These have been installed on the tops of the cases on the west side of the Gem room. One of the most precious single objects among the additions is a ceremonial axe-hammer of Agate which was once the property of Cardinal Borgia and which bears ancient inscriptions. The new series of Ceylon Sapphires is highly prized. It contains two blue and yellow stones weighing 21 carats each,

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a yellow gem of 100 carats and a wonderful blue Star-Sapphire weighing 541 carats which for generations was an heirloom in the family of a Nabob of the island. Besides these there should be mentioned a Rubellite, or pink Tourmaline, of 40 carats, from Madagascar, a 57-carat yellowish-green Beryl from Ceylon and an Amethyst weighing 142 carats from the Ural Mountains. The last possesses the rather unusual property of scintillating in a strong light.

THE mineral collection has been enriched by the acquisition of a specimen of Enargite—a compound of copper with sulphur and arsenic—which surpasses any specimen of the species heretofore in the Museum. It was found in Montana.

IN August the Department of Conchology received a collection of very handsome shells belonging to the group of Cypræas. The series was obtained by the late Mrs. Marie A. Witthaus, and represents the result of years of painstaking selection. It is remarkable for the perfection of the individual specimens. The collection has been presented to the Museum by Dr. R. A. Witthaus.

A MAHOGANY log which has been completely honeycombed by the Teredo shell has been put on exhibition in the Shell hall.

THE Department of Vertebrate Palæontology has received several valuable specimens and casts during the past summer from foreign museums in exchange for American fossils. The British Museum has sent a finely preserved skeleton of a Plesiosaur or "Great Sea-Lizard," along with other specimens found at the rich fossil-quarry near Peterborough, England. The Plesiosaurs form a group of extinct marine reptiles, whose long neck and tail and short massive trunk with four flippers have suggested the rather apt comparison of the animal to "a snake threaded through the body of a turtle." Representatives of the group are rare in our western fossil-fields, and this specimen is the first acquired by the American Museum.

A skull of the Woolly Rhinoceros (*Rhinoceros tichorhinus*)

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and a cast of the skull of the Elasmothere (*Elasmotherium sibiricum*) another extinct Rhinoceros of gigantic size and peculiar aspect have been received from the University of Moscow; and the skull of a third large extinct Rhinoceros from Europe (*Rhinoceros pachygnathus*) has come from Munich University.

The three specimens will add much to the value of our series of skulls of extinct Rhinoceroses, which already represents the majority of the species known, and is far more nearly complete than that of any other museum.

A large series of casts of limbs and feet of Dinosaurs, or Giant Reptiles, from the Triassic formation of Germany, has been received from the University of Tübingen. Dinosaurs from this very ancient formation are extremely rare in America; all of those in the Museum collections come from later formations.

PROFESSOR BICKMORE, who has been spending the summer in England and on the Continent, has just returned to the Museum. He attended the meetings and took part in the conferences of the Nature Study convention in London, in July, where the Department of Public Instruction of this Museum made an exhibit of photographs and stereopticon slides illustrating its methods of "visual instruction."

DR. HRDLIČKA has returned to the southwestern States and northern Mexico to make supplementary studies upon the Indian tribes of that region among whom he already has spent so much time.

THE Linnæan Society of New York will hold its regular meetings in the small lecture hall of the Museum on Tuesday evenings, October 14 and 28. The first evening will be devoted to reports from members regarding their summer work, while the second evening will be occupied by a talk by Frank M. Chapman on "Bird Studies with a Camera in 1902," illustrated by means of lantern slides. The public is cordially invited to attend these meetings.

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Publications

The publications of the Museum consist of an Annual Report, in octavo, about 80 pages; the Bulletin, in octavo, of which one volume, consisting of about 400 pages, and about 25 plates, with numerous text figures, is published annually; the Memoirs, in quarto, published in parts at irregular intervals; an Ethnographical Album, issued in parts, and the American Museum Journal, published monthly, except July to September.

The American Museum Journal

EDMUND O. HOVEY, *Editor*.

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NOVEMBER, 1902

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JOURNAL



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THE AMERICAN MUSEUM OF NATURAL HISTORY was established in 1869 to promote the Natural Sciences and to diffuse a general knowledge of them among the people, and it is in cordial coöperation with all similar institutions throughout the world. Since the Museum authorities are dependent upon private subscriptions and the dues from the members for procuring needed additions to the collections and for carrying on explorations in America and other parts of the world, the attention of persons interested in such matters is called to the brief statement of deeds and needs on the fourth page of the cover of the Supplement.

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WITH this number of the JOURNAL there is issued a Supplement entitled "The Sequoia: A Historical Review of Biological Science," which relates to the history of the Big Tree section which is on exhibition in the southeast corner hall, just beyond the Wood Hall, and cites the most striking events in the development of the natural sciences, almost all of which have come within the life-period of this tree. The noble specimen of Sequoia which forms the subject of this paper was presented to the Museum in 1893 by the late Collis P. Huntington, and the institution is indebted to Mrs. Collis P. Huntington for the funds needed for its preparation and installation.

ENTOMOLOGICAL WORK IN THE BLACK MOUNTAINS OF NORTH CAROLINA.



THE collections of the Entomological Department of the Museum have been greatly enriched during the past season by about five weeks' work in the Black Mountains of North Carolina which the writer was enabled to do through the generosity of the late Very Reverend Eugene A. Hoffman. One object of the expedition, which was in the field from June 9 to July 15, was to explore the region of the main chain situated north of Mount Mitchell, and including the following peaks: Black Brothers, Balsam Cone, Cat-tail Peak, Hairy Bear, Deer Mountain, Long Ridge, Middle Point and Bowlen's Pyramid. The prevailing heavy fogs, rain and hail storms, however, rendered it impossible to penetrate these wild regions any farther than to the other side of the summit of the Black Brothers, shown on the accompanying plate. Another object of the trip was the obtaining of



Photograph by W. Beutenmüller.

THE BLACK BROTHERS, NORTH CAROLINA.

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species to be found only in June, and the results in this respect have been very satisfactory, since all the species found are different from the ones collected heretofore, and at least four thousand specimens were obtained.

In the course of this and the preceding three trips the following peaks have been explored by me in quest of beetles: Mt. Greybeard, Rocky Knob and Toe River Gap, in the Blue Ridge, which form the connecting link between the Blue Ridge and the Black Mountains; Potato Knob, Clingman's Peak, Black, Gibbs, Hallback (or Sugar-loaf), Stepp's Gap, Mitchell and Black Brothers, in the Black Mountains, and Bull Head and Craggy Dome in the Craggy Range. The valleys as far as Balsam Gap and Asheville, as well as other hollows and ravines, have been explored for their beetles.

The forests of the Black Mountains are characterized by a dense growth of Carolina balsam (*Abies frazeri*) and black spruce (*Picea mariana*). In certain places they contain also mountain ash (*Pyrus americana*), wild red cherry (*Prunus pennsylvanica*), hemlock (*Tsuga canadensis*), mountain maple (*Acer spicatum*), and *Rhododendron catawbiense*. The slopes of the mountain are coated with a deep layer of damp moss, and the ground is strewn with fallen timber in various stages of decay. The Black Mountains derive their name from the dark foliage of the evergreens.

The Blue Ridge, Craggy Range, and lowlands are covered principally with red oak, white oak, chestnut, sweet birch, locust, walnut, buckeye, tulip tree, hickory, laurel and rhododendron (*R. maximum*). In the valleys are found also large stretches of chinquapin chestnut. The beautiful fiery azalea is also found on the mountain-sides, and when in bloom, together with the purple rhododendron (*R. catawbiense*), yields an abundance of rare beetles, principally Cerambycidae, Curculionidae, Chrysomelidae, Elateridae, Cistelidae, Lampyridae, and Mordellidae. The chinquapin blossoms also yield a harvest of rare species.

The white rhododendron (*R. maximum*), which blossoms later than the mountain species, yields very little or nothing in the line of beetles.

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The species found in the valleys and on the Blue Ridge are somewhat different from those to be found on the Black Mountains, owing to the differences in flora and temperature, which have the effect of limiting the distribution of certain species.

On the ridge leading from Mt. Mitchell to Black Brothers, and on Mt. Gibbs, the very rare beetle, *Cychnus guyotii*, was taken, as well as *Cychnus canadensis* and *Cychnus andrewsii*. The first two occur only on the high elevations, while the last is also found on the slopes and in the valleys together with *Cychnus bicarinatus*. *Nomaretus debilis*, *N. hubbardi*, *N. imperfectus* and *Pterostichus blanchardi* also have been taken.

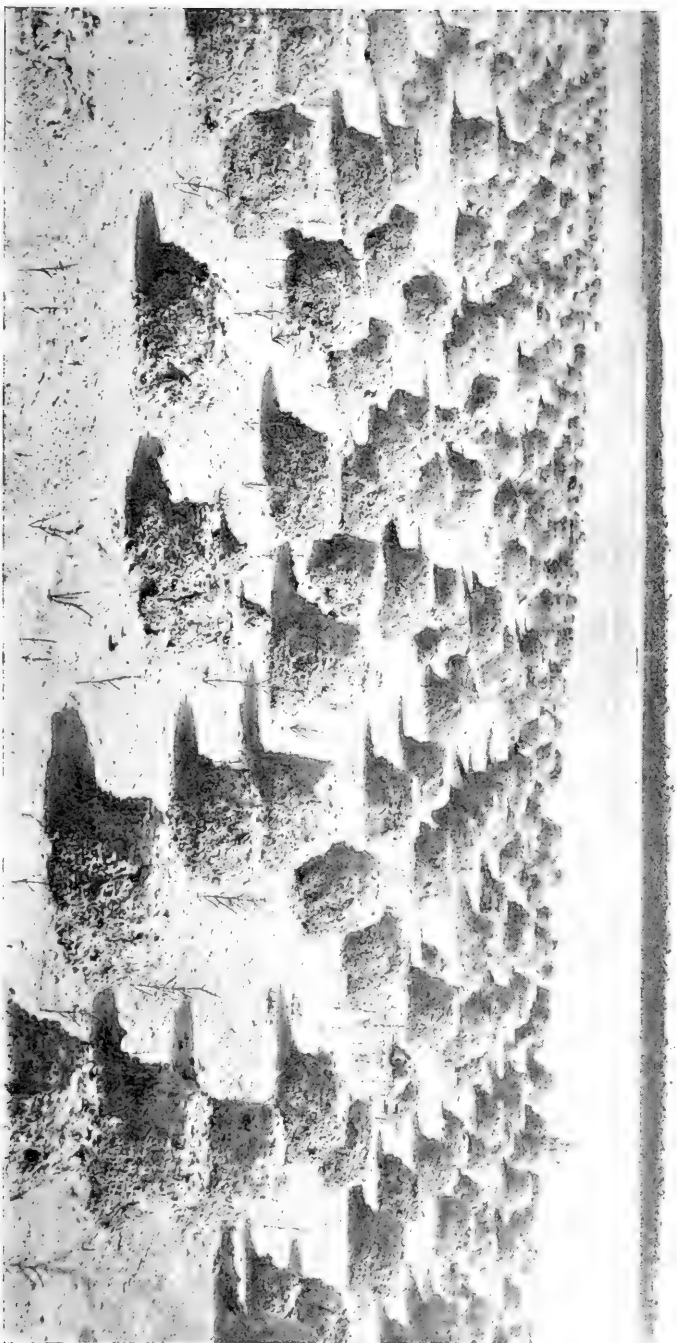
The writer has made three trips to the same general region in the interest of the Museum in previous years, the first being a vacation trip to the Cowee Mountains, south of Asheville, N. C., in 1895, and the second and third being Museum expeditions to the Black Mountains, the Big Craggy and the Blue Ridge in the summers of 1900 and 1901. Notices of these expeditions have been given in the JOURNAL, Vol. I, p. 44, and Vol. II, p. 4. On the four trips nearly one thousand species have been collected, and the material now on hand, together with lists of the species taken by other collectors in the Cumberland Gap, Va., Round Knob, N. C., Retreat, N. C., Highlands, N. C., and Roan Mountains, is enough to form the basis for an extended monograph on the insect fauna of the region.

Additional material, however, is needed, especially from the northwest chain of the Black Mountains, and information concerning the species to be found in May and early June is required to complete the work.

WM. BEUTENMÜLLER.

COLLECTING FLAMINGOES AND THEIR NESTS IN THE BAHAMA ISLANDS.

IN preparing groups of birds and mammals for exhibition the Museum aims to secure material which will be not only attractive and scientifically valuable, but also and more especially that which will represent those animals and phases of animal life which



Photograph by F. M. Chapman.

FLAMINGO NESTS: PART OF A COLONY OCCUPIED IN 1900.

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are rapidly disappearing. The Bird Rock group, for example, is not only beautiful in itself and it not alone illustrates the breeding habits of seven species of sea-birds, but, as a whole, it shows a characteristic phase of coast bird-life which in nature can now be found only in the most isolated or inaccessible localities. Acting, therefore, on this principle the writer has made two journeys during the past season, one to the Bahama Islands and one to the coast of Virginia, to secure material for bird groups, funds for which have been presented to the Museum by John L. Cadwalader, Esq.

The object of the first trip was to find and collect nests and specimens of the Flamingo. This beautiful bird is yearly becoming rarer, and still little is known of its breeding habits, while, so far as the writer is aware, at the time this expedition was planned, no example of the singular nest built by the Flamingo existed in this country, those exhibited in Pittsburg and at Washington being made of *papier maché*.

Since the single flock of Flamingoes which frequents the vicinity of Cape Sable, Florida, is the only one known to inhabit the United States, and because its nesting grounds have not yet been discovered, it was decided to visit the Bahama Islands in search of the desired nests and specimens. In the latter part of April, therefore, the writer sailed for Nassau, where he joined J. Lewis Bonhote, Esq., of Cambridge, England. Mr. Bonhote was formerly Governor's Secretary at Nassau and his experience among the islands was of the utmost assistance in the furtherance of our plans. We chartered a small schooner and set sail for Andros, the largest of the Bahama Islands and well known to naturalists as a resort of Flamingoes. During the winter these birds live chiefly on the west coast of the island, where the shallow water and soft marl bottom afford them an abundance of food and prevent pursuit either by boat or on foot; but in May they gather in some before-frequented lagoon in the interior of the islands, far from the habitation of man, to rear their young. These breeding resorts are few in number and their whereabouts are comparatively unknown. Thanks, however, to Mr. Bonhote, who had reconnoitred the ground, we

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succeeded in reaching a large Flamingo rookery well in the heart of Andros without undue difficulty. Our schooner was left at anchor behind the shelter of some outlying reefs and the final part of the voyage was made in small boats.

The locality is only a few inches above sea level and is characterized by wide stretches of shallow lagoons bordered by red mangrove trees with occasional bare bars of gray marl, and by outcrops of coralline rock so eroded and water-worn into blade-like edges and sharp, jagged pinnacles that walking is attended by much danger. Our tents were pitched on a sand-bar and preparations made to visit the Flamingo colonies known to exist in the vicinity.

Subsequent research showed that the locality was regularly frequented by these birds as a breeding resort, but that apparently a different spot was chosen each year. Eight groups or villages of nests were found within a radius of a mile, each evidently having been occupied but one year. The largest of these, placed on a mud-bar only an inch or two above the level of the surrounding water, was 100 yards in length and averaged about 30 yards in width. An estimate, based on an actual count of a portion of this colony, gave a total of 2000 nests for an area of, approximately, only 27,000 square feet.

This colony we judged to have been occupied in 1900; while that of 1901 was found at a distance of a mile, the nests being scattered about in a dense growth of mangroves. Here the birds were found at work upon their nests for the present year, Mr. Bonhote seeing a flock estimated to contain about 700 birds—a sight of surpassing beauty. Although no shot was fired and a retreat was promptly made, the birds were disturbed by this intrusion and either discontinued operations or removed to some other locality and eventually we were forced to leave without seeing fresh nests. Those in process of building, however, told somewhat of the manner of their construction. The nests of 1901, built among the mangroves, were in an excellent state of preservation (some even containing eggs) and being partly sun-baked could be transported more readily than new nests. Indeed it is doubtful if the latter could be removed.

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Under the best circumstances, the task of getting these nests whole to our schooner, not to mention the Museum, was one of unusual difficulty. The largest I attempted to take measured 18 inches in diameter at the bottom, 13 at the top, 9 inches in height and weighed upward of one hundred pounds. One solid mass of mud and dried only externally, it needed but a slight jar to break the strongest of these nests into fragments, so that there seemed but slight prospect of any specimens reaching New York in safety.

Our negro boatmen were not accustomed to work of this character and it required special inducements to tempt them to wade barefooted the coral-beset lagoons or to traverse the keen-edged rocks with burdens of from fifty to a hundred pounds on their heads. At last our selected examples were placed in a canoe and started on their voyage to the schooner, which they reached with the breakage of three out of nine specimens. The subsequent necessity of beaching the schooner to repair a leak and a rough night during the return passage to Nassau further endangered them, but after several minor mishaps they accomplished in safety the first part of their voyage to the Museum. In Nassau they were treated with a solution of gum arabic, which hardened them superficially and, after being wrapped in plaster of Paris bandages, they were packed separately in large boxes with sponge clippings and thus reached New York in an undamaged condition.

Specimens of Flamingoes themselves were also secured together with photographs of their rookeries. The four nests collected differ from the conventional idea of a Flamingo's nest in being much lower and of greater diameter. They, however, fairly represent the prevailing types of nests examined. Doubtless the height of the nest, like the height of the "chimneys" of fiddler crab burrows, is governed by the rise of the water. Built wholly of mud, which is scooped up from about the base of the nest by the bird, it is necessary that the site chosen shall be near enough to water to insure an abundant supply of sufficiently soft material. Such a site, however, brings the nest within reach of the tide or places it in a low situation which

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may be subsequently flooded by heavy rains, and the birds must build their nests high enough to protect their contents from the water. The combination of these two conditions has resulted in the production of a mud cone which, in the colonies examined, was never more than twelve inches in height; but nests eighteen inches high have been reported.

In the slightly hollowed top of this adobe dwelling a single white egg is laid. Of the period of incubation, condition of the young at birth, time it passes in the nest, manner of feeding, etc., practically nothing is known and the nesting habits of the species offer a fine field for study to any ornithologist who is desirous of filling one of the blank pages in the history of our birds.

FRANK M. CHAPMAN.

LECTURE ANNOUNCEMENTS.

THE remaining lectures of the current course of Professor Bickmore's lectures to teachers are as follows (Saturday mornings at 10.30 o'clock):

November 1 and 8.—"The French Alps."

November 15 and 22.—"Historic Towns of Central France."

November 29 and December 6.—"Historic Towns of Southern France and the French Riviera."

PROFESSOR BICKMORE's lectures to members of the Museum and their friends will be given on Thursday evenings in November and December in accordance with the following programme:

November 20.—"The Swiss Alps."

December 4.—"The French Alps."

December 11.—"Historic Towns of Central France."

December 18.—"Historic Towns of Southern France and the French Riviera."

THE Tuesday evening course in coöperation with the Department of Education of the Borough of Manhattan, Dr. H. M. Leipziger, Supervisor of Lectures, was begun October 7 and will

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continue until December 16. The whole series of eleven lectures, all of which are illustrated, is devoted to Asiatic geography. The list of lecturers and their subjects is as follows:

October 7.—Dr. JOHN C. BOWKER, "New Zealand."

October 14.—Dr. JOHN C. BOWKER, "Contrasts." A study of the customs of people in many lands, compared and contrasted by phrase and picture.

October 21.—Dr. WM. E. GRIFFIS, "Japan."

October 28.—Dr. KENNETH F. JUNOR, "China."

November 4.—Mrs. HELEN M. JACKSON, "Manners and Customs of Hindus." Illustrated by costumes.

November 11.—CYRUS C. ADAMS, "New Things We have Learned about Africa."

November 18.—A. C. MACLAY, "The Vale of Cashmere."

November 25.—JOEL WERDA, "Persia."

December 2.—Mrs. J. H. HAYNES, "The Bedouins of the Euphrates."

December 9.—S. W. NAYLOR, "Jerusalem and Her Environs."

December 16.—G. C. MARS, "Cairo."

Four lectures by Dr. HENRY E. CRAMPTON on "Some Interesting Aspects of Evolution":

October 18.—"The Problem of Evolution."

October 25.—"Interesting Facts Showing Evolution."

November 1.—"Interesting Facts Showing the Method of Evolution."

November 8.—"Method"; Conclusion and Summary.

November 15.—CYRUS C. ADAMS, "Earthquakes."

November 22.—Dr. E. O. HOVEY, "Volcanoes."

November 29.—GEORGE DONALDSON, "Martinique."

December 6.—W. T. ELSING, "Ants and Bees."

December 13.—WM. HARPER DAVIS, "Snakes."

The lectures on November 15, 22 and 29 will be illustrated with stereopticon views.

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NOTES.

THE International Congress of Americanists held its thirteenth convention from October 20 to 25 in the halls of the Museum, by invitation of Morris K. Jesup, Esq., President. The sessions were well attended by the anthropologists and others interested in the study of the aboriginal inhabitants of the Western Hemisphere, not only from this country but also from abroad. More than eighty papers were presented by members. After the adjournment of the congress the foreign members participated in an excursion to Philadelphia, Washington, Pittsburg, Cincinnati, and Chicago to visit the scientific and educational institutions of those cities. A halt *en route* was made to visit the prehistoric earthworks in Ohio known as "Fort Ancient."

THE meetings of the New York Academy of Sciences are held in the Assembly Hall of the Museum Monday evenings at 8.15 o'clock. During the current month the meetings will be held as follows:

November 3.—Business meeting and Section of Astronomy, Physics, and Chemistry.

November 10.—Section of Biology.

November 17.—Section of Geology and Mineralogy.

November 24.—Section of Anthropology and Psychology.

All persons interested in the subjects under discussion are cordially invited to attend the meetings.

THE annual convention of the Audubon Society of the State of New York was held in the Museum on Thursday, October 16. Reports were presented by the officers, and illustrated addresses were delivered by William Dutcher and Frank M. Chapman.

A LARGE group representing the Osprey, or Fish-Hawk (*Pandion haliaëtus carolinensis*), was completed recently and has been placed on exhibition on the Gallery Floor near the elevator. The materials for this group were collected by Frank M. Chapman on Gardiner's Island, L. I., June 3, 1901, and were prepared for exhibition by H. C. Denslow and E. W. Smith.

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IN the latter part of July Mr. Chapman made his second trip of the season for the purpose of getting material for the Cadwalader bird groups. He visited Cobb's Island on the coast of Virginia, north of Cape Charles, which formerly was a famous place for beach-breeding sea-birds. The ravages of millinery collectors have completely exterminated some species and greatly reduced the numbers of others, but the island still is frequented by great numbers of birds of species for which as yet Fashion has made no call. It is proposed to represent a beach scene with its feathered inhabitants and thus preserve for all time an accurate, graphic record of conditions which even now are on the verge of extinction. This group will be a companion piece for that representing the sea-bird life of rocky coasts.

Through information obtained by correspondence with the captain of the Life-Saving Station situated on Cobb's Island the trip was timed so that the island was reached at exactly the right date to collect the material which shortly will be exhibited in the gallery of the Bird Hall.

SOME of the material collected by Dr. E. O. Hovey on the expedition to Martinique and St. Vincent, noticed in the last number of the JOURNAL, has been placed on exhibition near the carriage entrance, together with a relief map of the island of Martinique and a series of transparencies illustrating some of the more striking features of the trip.

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The publications of the Museum consist of an Annual Report, in octavo, about 80 pages; the Bulletin, in octavo, of which one volume, consisting of about 400 pages, and about 25 plates, with numerous text figures, is published annually; the Memoirs, in quarto, published in parts at irregular intervals; an Ethnographical Album, issued in parts, and the American Museum Journal, published monthly, except July to September

The American Museum Journal

EDMUND O. HOVEY, *Editor*.

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THE AMERICAN MUSEUM OF NATURAL HISTORY was established in 1869 to promote the Natural Sciences and to diffuse a general knowledge of them among the people, and it is in cordial coöperation with all similar institutions throughout the world. Since the Museum authorities are dependent upon private subscriptions and the dues from the members for procuring needed additions to the collections and for carrying on explorations in America and other parts of the world, the attention of persons interested in such matters is called to the brief statement of deeds and needs on the fourth page of the cover of the Supplement.

The American Museum Journal

VOL. II.

DECEMBER, 1902

No 9.



THE Thirteenth International Congress of Americanists was held in the halls of the Museum from October 20 to 25, in accordance with the invitation of President Morris K. Jesup. The officers of the Congress, who were elected at the first session, were as follows:

THE BUREAU OF THE CONGRESS

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President American Museum of Natural History.

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The question of the early remains of man on this continent naturally received much attention at this Congress and papers on subjects pertaining thereto were read by several of the dele-

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gates. In addition to the ancient human remains which have been found in California, Iowa, Nebraska, Mississippi and Illinois, discoveries have been made during the last fifteen years in a so-called interglacial gravel deposit along the Delaware River near Trenton, New Jersey, which have indicated a very high antiquity for man in America. Prof. F. W. Putnam laid before the Congress the results obtained by the careful and extensive investigations of Ernst Volk in the Trenton gravel during the last ten years, illustrating his remarks with the articles obtained, which are now in the American Museum. The most important discoveries consist of the remains of several skeletons which were unearthed in the summer of 1899. They lay beneath two feet of black clay and five feet of yellow and greenish-yellow sand, belonging to the glacial deposits, and containing all the indications of glacial action. The black bed is considered to belong to the time during which the ice-front made its first retreat. The bed of sand shows thin, easily-recognized streaks which vary in color from white to greenish-yellow, clear yellow and dark yellow. Inasmuch as these bands nowhere show any succeeding disturbance, it follows without question that the skeleton reached the place in which it was discovered before the laying down of the sand bed. Furthermore, south of Trenton, there has been exhumed from a sand bed a left human femur in the vicinity of which there was also discovered an elk bone and fragments of bones of the musk-ox. In addition to these there were found several pieces of stone which showed indubitable evidence of human workmanship, so that now it can no longer be doubted that the fact has been established that America was inhabited by men during Glacial time. How many thousand years ago this period may have been is a question which cannot yet be answered with certainty, but it may well have been between 10,000 and 20,000 years.

In March of the present year there were discovered in the vicinity of Lansing, Kansas, a human skull and some other bones which lay from 19 to 20 feet below the surface of the ground and 69 feet from the mouth of the tunnel the digging of which led to their

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discovery. The material of the bed in which the objects were found is loess. The question of the Lansing skull and its relations was discussed in papers by Professors T. C. Chamberlin, W. H. Holmes and S. W. Williston and Drs. George A. Dorsey and Aleš Hrdlička. In type and measurements the skull has proved to be scarcely different from the average of those of the present American Indian. The locality where the find was made has been studied by several geologists, and Professor T. C. Chamberlin states that in his opinion at least 8000 years must have elapsed since the deposition of the beds in which the skull was found. In reference to the similarity between the Lansing skull and the skulls of the present Indians, Professor Putnam remarked that it only served as a further argument for the high antiquity of the Indian race in America. Prof. Franz Boas has arrived at similar conclusions regarding the long human occupation of this continent on account of the great complexity of the American people in reference to their languages and characteristics.

Professor Boas detailed to the members of the Congress the results which have been obtained for the Museum through the labors of the men engaged on the Jesup North Pacific expedition, information regarding which has been given at length in previous numbers of the JOURNAL.

Several of the important papers submitted to the Congress pertained to the archæology of Mexico. Among these may be mentioned particularly those of Alfredo Chavero, Leopoldo Batres, Nicolas Léon, M. H. Saville, Edward H. Thompson and Mrs. Zelia Nuttall.

M. H. Saville read a paper upon the new discoveries near Mitla, which he made in the course of investigations provided for through the liberality of the Duke of Loubat. Among other things Mr. Saville made clear that the temples at Mitla, like all other sacred buildings of ancient Mexico, have been erected upon terrace-like substructures which, however, here have been destroyed to a great extent by the action of wind and weather. He also made mention of a new cruciform subterranean chamber which he discovered under one of the largest temples in Mitla in

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a state of perfect preservation. This chamber has an extreme length of about 45 ft. and is the most important structure of its class thus far found in Mexico.

Mr. Batres gave a description of the discoveries made in the year 1900 behind the cathedral in the City of Mexico while excavations were in progress for the new drainage system of the city. The speaker stated that during these excavations more than 8000 different objects had been brought to light, among which were numerous idols, elaborately painted urns, stone knives and various votive offerings, and that the number of articles of jewelry made of gold, turquoise, jade, onyx and other valuable stones was very large. Many of the objects show in their workmanship a high degree of perfection. The scientific investigation of this material is sure to throw much new light upon the culture of the Aztecs. In this connection also the papers of Prof. Eduard Seler on the religious compositions and picture-writings of the ancient Mexicans were of great value.

Mrs. Zelia Nuttall read a paper upon the self-inflicted tortures of the religious devotees of the ancient Mexicans in which she stated that on certain days the tongue, ears or other parts of the body of the devotee were pierced with pointed sticks or the sharp thorns of the agave. The blood flowing from the wound was caught in sacrificial vessels which were then placed at the feet of the representations of the gods.

Edward Thompson displayed a complete series of reproductions in color of the wall paintings which he had discovered on the peninsula of Yucatan in the temples of Chacmultun and gave a clear idea of the heretofore practically unknown color-materials of the Mayas. The conclusion to which Mr. Thompson has arrived is that these people used nothing but vegetable colors in the decoration of their walls, among which one can distinguish two shades of blue, two different greens, besides red, brownish-red, yellow, black and white. The colors were put on with an oily fat, and by means of a fine brush of hair, upon the cream-colored stucco which formed the surface of the walls. In their character the paintings remind one of the naïve pictures with

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which the monks of the middle ages in Europe decorated their manuscripts and church walls. Mr. Thompson also displayed to the Americanists by means of kinetoscopic pictures a Yucatan sun-dance, and at the same time gave phonographic records of the songs which were sung during each of the dances.

A. P. Maudslay displayed forty magnificent enlargements of photographs of Maya ruins and sculptures and a copy of his monumental work upon these antiquities, a work which marks an epoch in the history of the investigation of the culture of these people. Miss Adela Breton exhibited her copies of the well-known mural paintings of Chichen Itza.

The discoveries which have been made by the explorations of the Hyde Expedition under George H. Pepper of the Museum were detailed to the Congress in an important communication regarding the excavations made at Pueblo Bonito. Pueblo Bonito is, perhaps, the most important ruined city of New Mexico, and consists of an enormous building in the shape of a half-ellipse with a circumference of 1300 feet, and contains more than 640 rooms, in which between three and four thousand persons could find accommodation. Among the thousands of objects which have been found there those are of especial interest which have been discovered in the so-called Kiwa, the sacred treasure-house of the different religious orders of the Pueblo. Among these are countless remarkable ceremonial staffs and sacred utensils, beautiful amulets and pendants from costly turquoise, and bituminous coal, and a few painted terra-cotta jars, which from their form seemed to be better adapted for drinking vessels than for the carrying out of religious ritual.

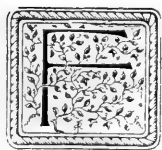
The present-day Indians were discussed in various relations. Miss Alice Fletcher and Dr. George A. Dorsey read papers on the ritualistic ceremonies of the Pawnee, from which it appeared that the belief in the Great Spirit which is to be found in many Indian tribes (the Wakan-tanka of the Sioux, the Manitou of the Ojibwa) is more highly developed among the Pawnee perhaps than in any other Indian tribe in America. Tarawah, the Great Spirit of the Pawnee, is not merely the master of life but also the

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source of all things, the ruler of the stars and of the universe in general. During their religious ceremonies an especial place is kept for him in the tent beside the fire, which is too holy for any one to dare to step upon, but which one honors through gentle touching with the finger tips.

It is entirely impossible to give in our contracted space an adequate idea of the full programme of the Americanists' Congress, and the scientific discussions of the Indian picture-writing, migrations, languages, customs, traditions, musical and artistic accomplishments etc. It may suffice to state that, in spite of the five days which the Congress lasted, only about two-thirds of the 105 papers which were presented could be read in full or even in abstract, the remainder being read only by title. On account of the multifarious duties of the Secretary of the Congress and the early date at which it was necessary to put the foregoing report into shape, it has been made up from newspaper accounts and other sources and does not lay claim to any degree of fulness. About 150 members were present at the various sessions of the Congress and the international character of the convention may be judged from the fact that delegates from twenty different nations were present. During the week following the sessions of the Congress the foreign members in attendance were the guests of the Pennsylvania Railroad Co. on an excursion which included visits to Philadelphia, Washington, Pittsburg, "Fort Ancient" (in southern Ohio) and Chicago. Everywhere the Americanists were received with the greatest hospitality, and in Washington were given a reception by President Roosevelt.

NEWS NOTES.



FOUR expeditions were sent out by the Department of Vertebrate Palæontology during the summer season of 1902. The first went into the region north of Miles City, Montana, seeking for the remains of horned Dinosaurs, under the direction chiefly of Barnum Brown, associated with Prof. R. S. Lull of

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Amherst College and Mr. Brooks, a recent graduate of Amherst. They were successful in discovering a skull which lacked the upper portions of the horns only, and which has an especially complete frill. Portions of the skeleton also of the same animal and of other horned Dinosaurs and the remains of a carnivorous Dinosaur of gigantic size were found; and just before the expedition closed three Crocodile skeletons and portions of the skeletons of several beaked Lizards (rhynchocephalians) were discovered.

The second expedition in Montana, under the leadership of Dr. W. D. Matthew, was in quest of mammals, chiefly of the Miocene period. Two important discoveries were made. First, of the beds containing the remains of some of the smaller animals of the period when the Titanotheres flourished, especially small carnivores and rodents and some primitive species of Horse, among them *Mesohippus westoni*. The small fauna of the lower Oligocene had already been made known partly through the researches of Earl Douglas, but our collection greatly adds to his interesting results. The second discovery of this party consisted of the lower jaws and extensive portions of the limbs and skeleton of a large Rhinoceros, probably belonging to the species *R. malacorhinus* Cope, a long-limbed animal which has been known hitherto from its skull and a single foot bone only. We are now enabled to give almost the complete characters of this long-limbed and long-skulled type, which stands in marked contrast to the more abundant short-limbed and short-skulled Rhinoceros of the same period, named *Teleoceras*.

The third expedition, under the leadership of Walter Granger associated with Peter Kaisen, returned to the vicinity of the famous Bone Cabin dinosaur quarry of central Wyoming for the fourth year of excavation. The early part of the season was devoted to a new dinosaur quarry discovered by W. H. Reed, and systematically explored by the Museum for the first time in 1901. This quarry proved to be very rich, especially in remains of the giant herbivorous Dinosaur named *Camarasaurus*. After work was finished at this point, the Bone Cabin quarry was systematically

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explored, and yielded a rich harvest of fifty-two boxes, mostly fine specimens, several of which are new to our collection.

The search for fossil Horses was continued under the direction of J. W. Gidley, especially in the southern portion of South Dakota. The results were only fairly satisfactory, and the first six weeks of exploration in the Niobrara beds was disappointing. Just as the work was drawing to a close, however, a brilliant discovery was made of the remains of a small herd of fossil three-toed horses belonging apparently to the genus *Hipparion*, and parts of numerous fore and hind limbs in a perfect state of preservation, and one skull and an associated skeleton so complete that it may be mounted were found. This discovery more than repaid the party for all the hard and disappointing work of the early part of the summer, and added another much desired stage to the collection presented to the Museum through the generosity of William C. Whitney, Esq.

After months of most difficult and skilful work, chiefly under the direction of Adam Hermann, three specimens of rare interest have been made ready for exhibition. The first is the complete skeleton of a small new Dinosaur which is to be named "The Bird Catcher," owing to its apparent capacity for great speed and the long and slender, grasping structure of the hands.

The second specimen is the great Fish *Portheus molossus* secured by Charles H. Sternberg in Kansas in 1900. This magnificent specimen, sixteen feet in length, has been mounted on a large panel, and we may fairly claim that it is the most striking specimen of a fossil fish in any museum in the world. The missing parts have been restored with the greatest care in light-colored plaster, so that there is no mistaking the restored for the original portions of the specimen.

The third exhibit is the superb pair of tusks and skull of the great *Elephas imperator*, secured from Texas last year. The tusks are thirteen feet, six inches in length, and twenty-two inches in circumference. The entire upper portion of the skull has been restored in white plaster. The specimen has been

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mounted with a view to showing the actual height of the skull in an animal of corresponding size.

The Department of Mammalogy and Ornithology has recently received a valuable collection of mammals from the vicinity of Repulse Bay, Arctic America, obtained for the Museum by Captain George Comer, consisting of a fine series of Barren Ground Caribou, Musk-Oxen, and of the smaller mammals of the region, including Wolverenes, Arctic Foxes, Weasels, Arctic Hares and various species of Lemmings. This collection of mammals is of especial value to the Museum, being the first it has received from the main-land of Arctic America bordering Hudson Bay.

Recent news from the Andrew J. Stone Expedition, now collecting in northern British Columbia, for the Department of Mammalogy and Ornithology, indicates that the season's work has been very successful, and that the amount of material will far exceed that obtained last year. Up to the middle of September more than thirty large mammals had been collected, consisting of Bears, Foxes, Wolves, Mountain Sheep, Mountain Goats, Moose and Caribou, and about 800 small mammals. The expedition will remain in the field till the end of November, and the collections will probably reach the Museum about the end of December.

LECTURES.

During December the following lectures will be given at the Museum:

By Prof. A. S. Bickmore to the members of the Museum:

December 4.—“The French Alps.”

December 11.—“Historic Towns of Central France.”

December 18.—“Historic Towns of Southern France and the French Riviera.”

On Christmas Day at 3 P.M. Professor Bickmore will lecture to the general public on “The French Alps.” No tickets are required for admission.

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Under the auspices of the Board of Education:

Tuesday evenings at 8 o'clock,

December 2.—Mrs. J. H. HAYNES, "The Bedouins of the Euphrates."

December 9.—S. W. NAYLOR, "Jerusalem and Her Environs."

December 16.—G. C. MARS, "Cairo."

Saturday evenings at 8 o'clock,

December 6.—W. T. ELSING, "Ants and Bees."

December 13.—WM. HARPER DAVIS, "Snakes."

No tickets of admission are required.

MEETINGS OF SCIENTIFIC SOCIETIES.

The programme of the meetings of the New York Academy of Sciences for the month is as follows:

December 1.—Business Meeting and Section of Astronomy, Physics and Chemistry.

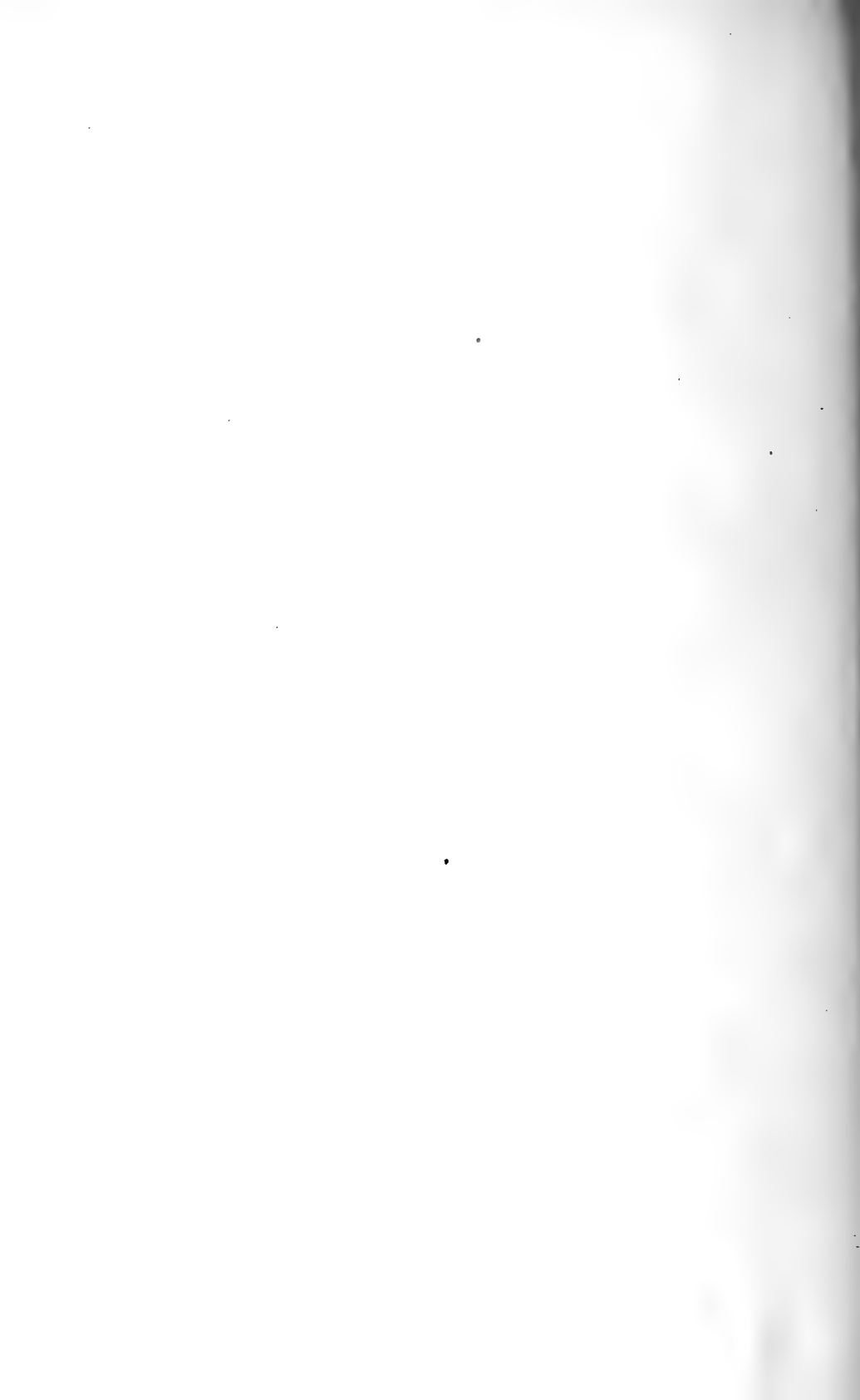
December 8.—Section of Biology.

December 15.—Annual Meeting and Presidential Address.

December 22.—Section of Geology and Mineralogy.

The public is invited to attend these meetings, which are held in the assembly room of the Museum.

The Linnæan Society of New York will hold its regular meetings at the Museum on December 9 and 23.



The American Museum Journal

EDMUND O. HOVEY, *Editor*.

FRANK M. CHAPMAN,
LOUIS P. GRATACAP, } *Advisory Board.*
WILLIAM K. GREGORY, }

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Publications

The publications of the Museum consist of an Annual Report, in octavo, about 80 pages; the Bulletin, in octavo, of which one volume, consisting of about 400 pages, and about 25 plates, with numerous text figures, is published annually; the Memoirs, in quarto, published in parts at irregular intervals; an Ethnographical Album, issued in parts, and the American Museum Journal, published monthly, except July to September.







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